Technology Review

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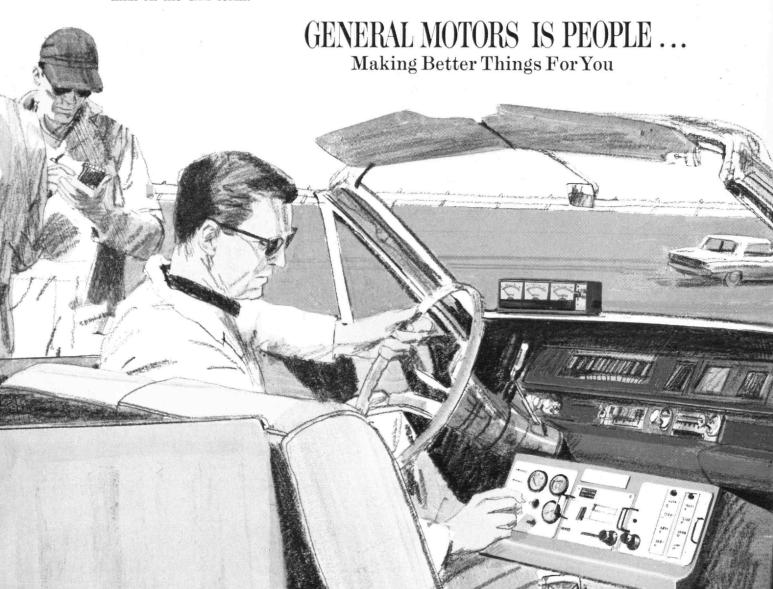
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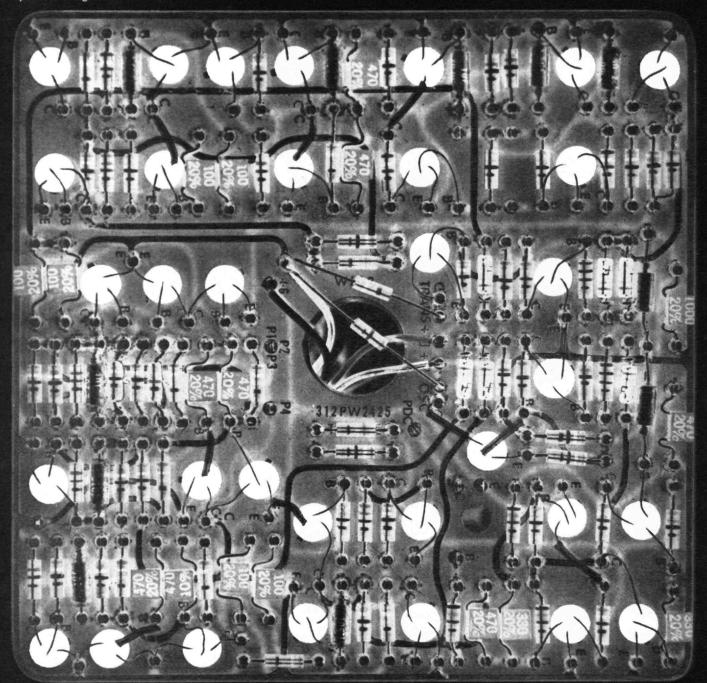
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Information Processing
Radio Physics and Astronomy
Radar Design
Control Systems
Space Surveillance Techniques
Re-entry Physics
Space Communications

A description of the Laboratory's work will be sent upon request.



Technology Review

Reg. U.S. Pat. Off.

Edited at the Massachusetts Institute of Technology

Volume 66, Number 2

Contents

December, 1963

The new dormitory shown here and on the cover drew attention to M.I.T.'s women students this fall, and many of this month's editorial features are concerned with the ladies' achievements.

TECHNOLOGY REVIEW is published monthly from November to July inclusive, on the 27th day of the month preceding the date of issue, by the Alumni Association of the Massachusetts Institute of Technology. All correspondence regarding its editorial contents, subscriptions, advertising, and changes of address should be addressed to:

Room 1-281, M.I.T., Cambridge 39, Mass.

The Review's publisher and editor is Volta Torrey; business manager, R. T. Jope, '28; assistant to the editor, Ruth King; and class news editor, Roberta A. Clark. Editorial consultants are J. J. Rowlands, Francis E. Wylie, and John I. Mattill. Members of its staff are Madeline R. McCormick, Joyce Skinner, and Maxine Kenny.

Officers of the Alumni Association of M.I.T. are: Robert H. Winters, '33, President; Donald P. Severance, '38, Executive Vice-president; F. Leroy Foster, '25, and Samuel A. Groves, '34, Vice-presidents; and Frederick G. Lehmann, '51, Secretary.

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nomic Development in Africa.

Individuals Noteworthy

Center's Director

HAROLD S. MICKLEY, '46, Ford Professor of Chemical Engineering, has been appointed director of the Center for Advanced Engineering Study at M.I.T., to which the first students will be admitted next fall.

Professor Mickley is chairman of the M.I.T. Faculty and ex-officio chairman of its Committee on Educational Policy. He will retain these responsibilities but now devote much of his time to the development of the Advanced Engineering Cen-



Harold S. Mickley, '46

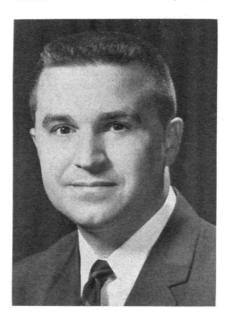
ter. Its establishment was made possible by a \$5,000,000 grant last spring from the Alfred P. Sloan Foundation, and a building to house the new center is to be erected on Massachusetts Avenue.

Professor Mickley's research has been applied in methods of cooling ballistic missiles and manned vehicles during re-entry into the atmosphere, and he has served on the U.S. Navy's Advisory Committee on Underwater Propulsion and other important government study groups.

He has been particularly concerned of late with teaching regarding the behavior of matter when subject to stress, electric and magnetic fields, and temperature and composition gradients.

New Vice-president

VINCENT A. FULMER, '53, executive assistant to the M.I.T. Corporation's chairman since 1960, has been appointed vice-president and secretary of the Institute. He will also be executive officer of the Corporation's Development Committee, assisting James R. Killian, Jr., '26, and John J. Wilson, '29, Secretary of the Corporation, in that capacity; and executive officer in a newly established Development Council which includes Dr. Killian, Presi-



Vincent A. Fulmer, '53

dent Julius A. Stratton, '23, Vicepresident Joseph J. Snyder, '44; and John W. Sheetz, 3d, '42, Director of Development.

Mr. Fulmer was born in Alliance, Ohio, in 1927. He was a Navy ordnance man in the Pacific during World War II, and received his A.B. degree cum laude from Miami University in 1949. He then came to M.I.T. for graduate study and received a master's degree in economics and science. He also has studied at Harvard, and has been a graduate assistant at M.I.T. in economics, and an instructor in economics at Williams College. He joined the staff of the Industrial Liaison Office at M.I.T. in 1953 and became its director in 1958.

Hunsaker Professor

HANS ZIEGLER, Professor of Technical Mechanics at the Eidgenossische Technische Hochschule in Zurich, is this year's Jerome Clarke Hunsaker Visiting Professor in Aeronautical Engineering at M.I.T.

His interests include gyroscopics, stability theory, and plasticity with particular concern for engineering applications of theoretical mechanics. He has been especially interested in irreversible thermodynamics and presented a paper in Berlin in 1962 that is considered a milestone in the development of theory dealing with such processes. He has previously been a visiting professor at Brown University and the University of California at Los Angeles.

Bemis Lecturer

PAUL OPPERMANN, a noted city planner, is now Albert Farwell Bemis Visiting Lecturer in Metropolitan Planning at M.I.T. He has been executive director of the Northeastern Illinois Metropolitan Planning Commission for the last five years, and previously was director of planning of the City and County of San Francisco, and chairman of the National Capital Housing Authority. He is a past president of the American Institute of Planners and former editor of its Journal, and has taught at several universities.

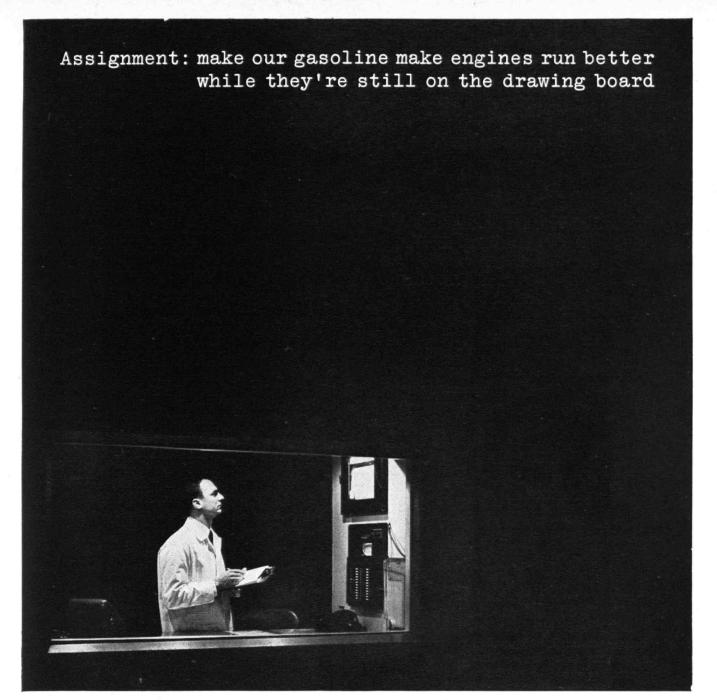
The lectureship he holds was established in 1938 by a bequest from Albert Farwell Bemis, '93.

Space Work and Fun

Joseph F. Shea, '46, was chosen this fall to head the Apollo Spacecraft Development effort at the Manned Spacecraft Center at Houston, Texas. For a profile of him, The New York *Times* interviewed Mrs. Shea, who reported that the new job delighted her husband.

When asked about his reputation as a punster, Mrs. Shea recalled that he had once entertained their children with a story about putting cows into orbit. "It will be the first herd shot around the world," Mrs. Shea quoted him as telling them. "All the world will see our space program is no bull, and we can milk it for all its worth." But when Dr. Shea was asked about the matter, he replied: "That's udderly impossible."

(Continued on page 6)



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One of the key scientists in American Oil's Road Antiknock Quality Program is Charles Karabell, 31, B.S., Chemical Engineering, PhD, Mechanical Engineering from Purdue University. To say that his job of establishing and predicting fuel characteristics for today's and tomorrow's automobile engines is a challenge, is a vast understatement.

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A. D. Ehrenfried, Pres. - SM, MIT

Individuals Noteworthy

(Continued from page 4)

Honors to Alumni

RECIPIENTS of recent awards and similar distinctions have included:

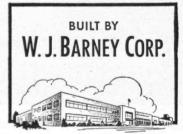
Francis B. Silsbee, '10, the Morris E. Leeds Award in Electrical Measurement by the Institute of Electrical and Electronics Engineers . . . Erwin H. Schell, '12, the Gold Medal of the Comite International de l'Organisation Scientifique . . . Crawford H. Greenewalt, '22, the "Society's Medal" by the Society of Chemical Industry;

Albert J. Gracia, '28, the Distinguished Award of Council by the Akron Council of Engineering and Scientific Societies . . . Ieoh M. Pei, '40, the Medal of Honor by the New York Chapter of the American Institute of Architects . . . Bernard F. Burke, '50, the Helen B. Warner Prize of the American Astronomical Society.

Honors to Professors

CHARLES S. DRAPER, '26, Director of the M.I.T. Instrumentation Laboratory, has been made president of the International Academy of Astronautics. . . . Arthur C. Cope, Head of the Department of Chemistry, has won the William N. Nichols Medal of the American Chemical Society's New York Section.

(Concluded on page 42)



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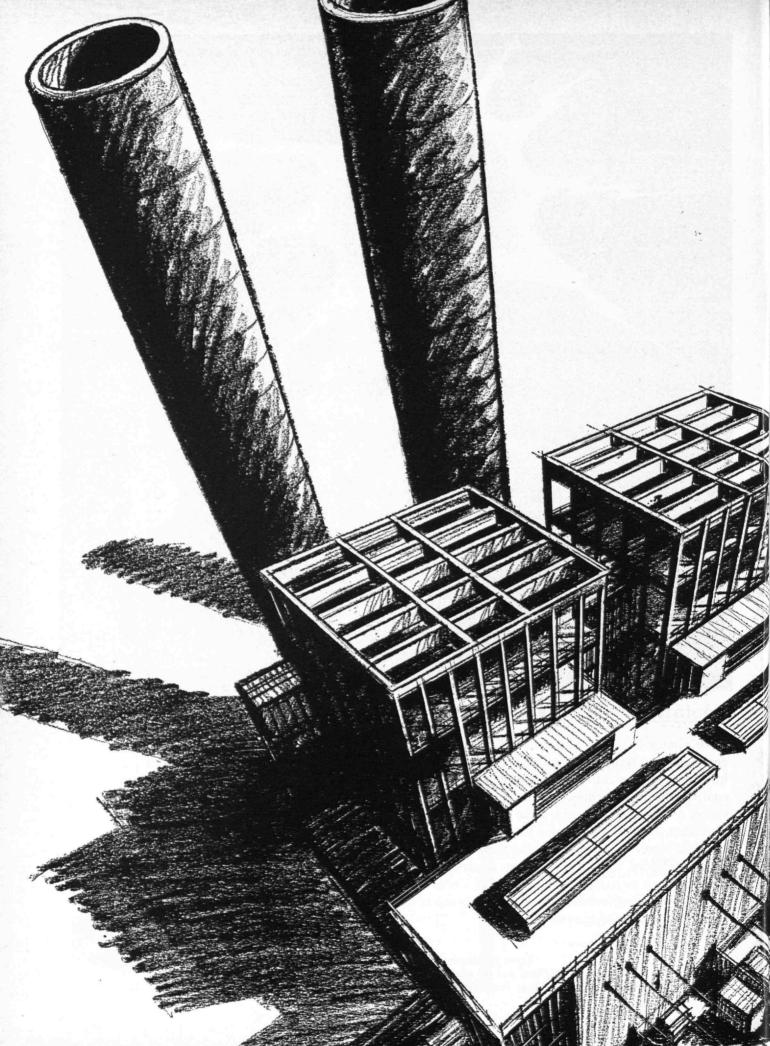


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Estone in American power practice

The Keystone Generating Station is at the heart of a \$350,000,000 power plant and transmission line expansion program — one of the largest and most important ever undertaken by America's investor-owned utility industry. Companies of the Pennsylvania-New Jersey-Maryland Interconnection and the Allegheny Power System are participating in the program. Consolidated Edison Company of New York is planning an interconnection with the PJM pool in upstate New York. When complete, the program will include eighteen investor-owned electric utilities. These groups serve more than thirty million people in eight eastern states and the District of Columbia.

to use C-E boilers

The Keystone Electric Generating Station, to be erected in the coal fields of western Pennsylvania, is the larger of two new power plants which will be built as part of the program. It will be owned by three of the companies in the Pennsylvania-New Jersey-Maryland Interconnection Group. These companies are: Jersey Central Power and Light Co., Pennsylvania Power & Light Co. and Philadelphia Electric Co. The output of the plant is to be shared by the three owning companies and by Public Service Electric and Gas Co., Atlantic City Electric Co., Baltimore Gas & Electric Co., and Delaware Power & Light Co.

The Keystone Station, which will provide over 75 per cent of the program's electric power, will contain two C-E Sulzer Combined Circulation Steam Generators. The purchase of these two units constitutes the largest single boiler contract ever let by the U. S. electric utility industry. The boilers will provide the energy to generate 1,800,000 kilowatts of power which will flow at 500,000 volts through more than 600 miles of transmission lines stretching from West Virginia to major eastern load centers. Each of the two C-E Sulzer Combined Circulation units will deliver supercritical pressure steam to a turbine throttle at 3,500 pounds per square inch pressure.

Keystone Station Consulting Engineers: Gilbert Associates, Inc., Reading, Pennsylvania.

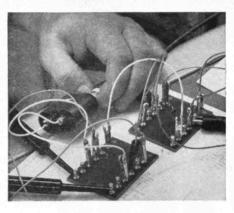


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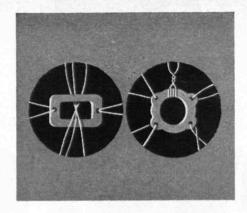
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Despite the tremendous speed and ravenous appetite of today's most advanced computers, scientists at Lockheed Missiles & Space Company's Computer Research Laboratories feel that there is room for a great deal of improvement. They have dedicated themselves to the discovery and development of ways to increase the speed and reliability of computers while simplifying their operation.

Though today's computer circuits are capable of operating at speeds measured in tens of nanoseconds, the useful computation rate is far slower. One of the roadblocks hindering speed is the need for the computer to wait for the carryovers from one column of figures to catch up with the main calculation. A possible an-



swer to this problem is modular arithmetic, which avoids carryover. Based on the ancient Chinese Remainder Theorem, this concept is being re-examined at Lockheed for potential computer applications.

Lockheed's Computer Research Laboratories are studying a very broad group of related computer research areas, and the company can boast that an unusual number of its specialists are at the very forefront of their specific fields.

Among the major areas of research being undertaken at this time are basic physical phenomena, such as phonons; quantum mechanics; switching theory; residue arithmetic (number system research); threshold logic and pattern recognition and logic design techniques.

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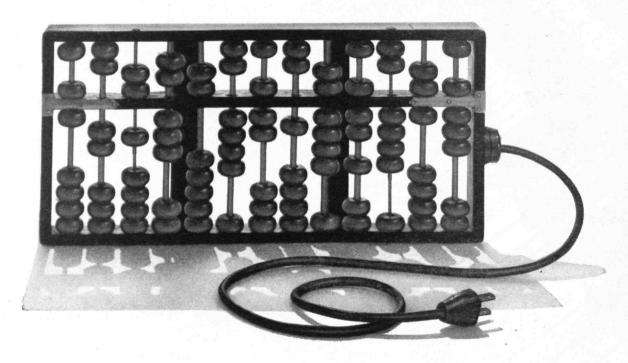
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LOOK AT LOCKHEED IN DIGITAL TECHNIQUES:

Basic research toward simpler, faster, more reliable computers



Man's Use of Men

An address given by the Honorary Chairman of the M.I.T. Corporation at the Alumni Seminar

BY VANNEVAR BUSH, '16

No matter what richness of materials man may employ, no matter what sources of energy he may tame to modify them for his purposes, man still needs to use men in order to carry out most of his plans and programs.

Not all. The poet may still create alone. The scientist may still, not often, produce new concepts in a cloister. The artist may have visions and transfer them to canvas in essential solitude. But the great structures and the masses of manufactured goods which feed, clothe, house, transport, amuse, and arm a modern civilization are produced only when men command men.

The history of the relationship by which this has been accomplished is a seamy one. The slaves on which all the old civilizations depended were usually treated worse than the cattle they tended. Under the feudal system they were given new names but treated as badly. The coming of the industrial revolution, with its mill towns, children working to the limit of their strength, men and women held in a bondage as secure as though chained because they could not move or plan together, did not introduce man's cruelty to man, it merely made it more evident.

We live in a different sort of world. Not everywhere. Poverty still continues over much of the earth, with man in bondage to his elementary needs, and it will so continue unless and until man learns to restrict his numbers. Poverty still exists in this country, and will so continue until we solve the problem of utilizing the work of the unskilled and the unteachable in an economy where machines call only for skill. This country has a higher standard of living by far than has ever before been witnessed in the long struggle for living space and security, higher by far than elsewhere today. And, in spite of absurdities, skulduggery, ignorance, and sloth, this country will maintain its security and advance its material prosperity. With this comes a whole new set of relationships by which men control men, by which

gradually men learn to work together for common purposes, without servility, with freedom and opportunity unencumbered by class distinctions, but with discipline, essential to organization, and not inconsistent with liberty in its highest sense.

It is hence incumbent upon those who operate with responsibility in the new system to learn and understand new interrelationships between men, to encompass in their culture a deeper concept of leadership.

It is often said that this is the age of applied science. The exponential burst of research, following the striking examples brought out by the war, pervades our governmental programs, our universities, and our industry. An accumulated treasure of basic science gathered by many years of patient work by scholars, refined and extended by thousands of workers, often unappreciated, unknown to a public interested in more readily grasped trivialities, is ripe for exploitation. We have seen physics, built over a century, suddenly flower in the ramifications of electronics, in the energy of the riven atom. Chemistry, long a dull subject, in its complexity, now gives us materials that sparkle and that are pliant to our wishes. Biology is just coming to its great days. True, the advances in medicine, dependent upon chemistry and biology, have been notable. In fact, they have caused some of our troubles by cutting death rates and leaving birth rates untouched. But they have also rendered our lives longer, healthier, and saner. Yet the great days of biology lie ahead. A dam is about to break; a dam behind which is a store of magnificent and towering understanding of life. From this will come advances such as the world has not yet

Certainly it is an age of applied science. But it is also an age in which man's relationships with his fellows are undergoing a transformation as fundamental, as essential to our safety and prosperity, as that of material affairs; more so, for upon a successful and salu-

DECEMBER, 1963

tary evolution of man's methods of using men, upon the advent of better ways of use, of transforming use into collaboration, depend the permanence and vitality of the free enterprise system which has made us great. It must be a bulwark against retrogression and chaos as the complexity of life mounts.

There is a fallacy abroad to the effect that there are two forms of culture, one based on science and the other on the humanities, and that these are separate and bound to diverge. There are, indeed, two forms of culture, but no such distinction and separation as this. If we should ever separate in this way we would surely become inept at tackling our real problems. Rather let us consider two cultures on a more reasonable basis. The first form we may define on a pragmatic basis. It is the culture which is useful in dealing with the affairs of the practical world. It is, more explicitly, that knowledge and understanding which is the basis of wisdom in the conduct of our daily lives and in our influence upon the course of great events. It is this form of culture which I here treat. Beyond it lies a second form of culture which is not utilitarian. I will not forget this second form and will return to it.

Culture in this practical sense consists of a knowledge of things and a knowledge of men. The first encompasses all of science, and all the empirical day-to-day understanding of materials, methods of using them, and the employment of power. By no means all of our knowledge of things has yet been formulated in scientific terms. This whole field is becoming broadened and deepened as we learn more about nature, about the things we use, and about the way in which we ourselves and all living things are constituted.

The record mounts, the structure of our knowledge of things in our journals and libraries, until it threatens to become unmanageable. A million men labor to build it, and a single man confronted with the resulting edifice is appalled. Science becomes fragmented into a hundred disciplines and the practitioners in some of these speak a jargon unintelligible to their neighbors. At one end of the spectrum lies nuclear physics, thoroughly confused by dozens of elementary particles, employing bizarre mathematics, abandoning causality, acknowledging the limits set by indeterminism, realizing that even its logic is now assailable, confronted by mysteries which seem to lie within its realm, but which nevertheless are incomprehensible. At the other end of the spectrum lie subjects little formulated as yet into generalities and working hypotheses, where the functioning of the human brain is studied, and even the basic definitions, the premises on which logic would rest, are vague and ephemeral. Our pursuit of the knowledge of things has led us to a point where not only is it becoming more and more abstruse, but there are many more new things and new relations to know than a single individual with his limited intellect and his short life can possibly grasp.

The second phase of pragmatic culture, the knowledge of men, is also blossoming, though not yet in the

spectacular manner of the knowledge of things. That it will thus blossom is inevitable as man learns better to understand himself and his fellows.

At the roots of both phases of pragmatic culture lie classical subjects. Behind all the present wild expansion of knowledge of things, classical physics, mathematics, chemistry, biology, still hold their essential place and must be grasped before those who aspire to extend and create in specialized areas can safely soar off the ground.

Similarly, in the knowledge of men the classic study of the past still holds its traditional power. History, biography, literature, are still basic. The study of ways in which men have for some thousands of years met their personal problems and the relations with their fellows, their successes and failures, their aberrations and their abnormalities, their cruelties and their generosities, their motivations and their blind surges, still forms the basis on which we can contend with the problems of the present day. It is well that in so doing we recognize that the environment under which men act has altered radically, for history can mislead unless thus qualified. We can assert also that history which ignores all those who did not live on the shores of the Mediterranean is not sound history. The life and motivations of Alexander are not more revealing than those of Genghis Khan, and the management of a far-flung empire by the latter was certainly more effective. The myths of the forests of Germany, imaging a philosophy of man's relations on this earth, are far less penetrating, far less civilized if you will, than the quiet ponderings of Chuang-tzu. Classic study in the humanities is basic to an understanding of men in the intricate relations that now obtain, but classic study can itself be narrow.

Just as basic science leads to intermediate disciplines—geology, meteorology, thermodynamics, aerodynamics and so on—so the study of man progresses to economics, political science, psychology, sociology, labor relations, and a host of other subjects. Here, too, there is expansion and ramification, and there is a slow refinement. In particular the handling of data, the statistics at the basis of many of these branches, is being rendered far more reliable and revealing. Just as in the knowledge of things, however, the scope of explicit knowledge of men and their relations is becoming so wide and deep that an individual confronted with its extent and complexity is appalled and often discouraged.

By no means all of culture is acquired by formal study and the reading of books. The youngster of today does not have to be taught how to diagnose a misfunction in an automobile. One is not taught in school how to confront a bully on a street corner. We learn by all of our experience, and of this formal study is only a part. This is particularly true of the knowledge of men. Nelson knew men; this, more than the weight of guns or skill in managing a crippled square-rigged ship accounted for Trafalgar. His knowledge was acquired by dealing with men. Roosevelt knew men as a result of

his experience in practical politics, knew them perhaps better than he understood economics, perhaps not, but it was this knowledge that carried him to the presidency at a critical time. It is possible to go about the world and learn little from exchanges with men of all sorts of background, education, and experiences. But it is also possible to learn wisdom in human relationships without ever going to college, as the success of many a leader attests. Common sense is a much misused term, but it connotes something valuable and mysterious which transcends formulas or expositions. A great difference between men arises according to whether they do or do not pay attention to their daily experiences, and this in turn depends upon whether or not they are determined to learn.

Continuity of learning, the imbedded habit of acquiring new knowledge, is paramount in the acquisition of culture. He who stops growing, in his grasp of his environment and of his fellows, when clad in medieval garments he receives a parchment testifying that he is entitled to add letters after his name, such a man may be discounted in the tumult of competitive society. Do not smile at the old man whose race is run and who still delves in his books and records; he exemplifies a determination which will cease only when he dies, and which he will not abandon because it has carried him far, and gives him assurance that he still lives. Men differ in their innate capabilities, in the intricate structure of the cells of their brains, inherited from their ancestors. They also differ greatly because of the ways they were molded in their pliant youthful years. But they differ also in their ambition and their motivations, and these are by no means merely a product of heredity and environment. If man is more than an automaton, as I believe he is, if he is a master of his acts, if he has the will to rise, he will have also the intense urge to learn throughout his whole life. Opportunity lies all about us, and every day. It is found in all the media of mass communication, and it is also found in every human contact. If there is serious intent, the acquisition of knowledge is perennial and cumulative. Do not misunderstand me at this point. No man can spend all of his time in conferences, serious reading, self-analysis without going stale. Recreation and relief are essential to continued sanity. A sense of humor is often a shield against weariness and frustration. Any man who does not find his fellows amusing should, in particular, keep out of participation in the national government. A light touch will open doors that are closed to a heavy hand. I would not lessen your enjoyment of life one iota as you proceed. I would merely emphasize as strongly as I know how that learning is the central criterion of the cultured man, that it does not belong to youth alone, and that it creates strength and yields satisfaction as long as life lasts.

There is little doubt that we in this country can continue to enhance our material prosperity. There is great doubt whether we can perpetuate the blessings of our democratic system, in the presence of racial problems,

the power of pressure groups, the apathy of the public, and failure on the part of the electorate to grasp the essence of its own welfare. I do not include the threat of Communism, for I have no question that we can defend ourselves, militarily and economically, if we can keep our own house in order. There is question whether we can operate a welfare state, as we should and must, without overdoing this salutary effort and forcing ourselves into inflation or out of the competitive world market. There is question whether we can arrive in time at a statesmanship of the leaders of labor and industry sufficient to achieve a just distribution of the fruits of industry without demoralizing strife. There is question whether as a nation we can develop in peace a patriotism such as we demonstrate in war, and on this basis work for the true national welfare as a goal which submerges petty jealousies and avarice. This will depend upon whether we experience a spiritual renaissance; not necessarily in some formal sense, but in the sense of unselfishness and altruism, in the sense of devotion to a common and worthy cause. It will also depend upon whether we fully know and understand men, whether we fully acquire the culture which is at the basis of wisdom.

What do we do, how should we operate as the scene becomes more and more complex, as the problem of the grasp of nature and the ways of men ramifies until it is utterly impossible for one to be fully cultured in the unlimited sense of understanding both completely? Fortunately it is by no means necessary that this should occur. No one man can grasp it all, but many men working together can grasp a sufficient range to operate great projects. The professions differ in their emphasis. The scientist places his main thought on things, on the laws of nature as far as formulated and on working hypotheses elsewhere. The lawyer deals primarily with the relations of men, one to another and in their industrial organizations, with government, and in government. Neither can afford to ignore totally the other phase of culture. The engineer stands squarely in the middle, to apply science in an economic manner to the needs and desires of men, knowing enough about science to do so with skill and effectiveness and enough about men to work with them in a myriad of ways. Businessmen usually put their emphasis on men but are seriously handicapped in these technical days if that is all they know. All professional men are confronted with the dilemma that there is much too much they need to know and too little time in which to learn it. One of the primary features of a knowledge of men is an understanding of how men of diverse talents may best pool their knowledge in a common effort. The doctor, the architect, the chemist, cannot possibly know all he needs to know for his professional work. He hence needs to know how he can find out, and, more important, he needs to be able, genuinely, honestly, generously to collaborate with those who know more than he on diverse aspects of problems as they arise. The leader of a business cannot possibly fully understand finance, la-

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bor relations, accounting, marketing, production, trends in industry, the course of legislation, public relations, personnel. He can, if he is able, gather about him a group that does thus understand; the measure of his ability is largely his skill in so doing. It is well, it is even necessary, that he excel personally in some field in order that he may have the respect of his associates. But he can be wise, in all the manifold ways in which he needs to be wise, only if he selects and has the loyalty of an able crew. This, in my opinion, rests primarily upon whether or not he has their interests as fully at heart as his own, or those of his business. This should call for no soft approach, although it sometimes does. It calls rather for a deep knowledge of men, their aspirations, their strengths and weaknesses, their ethical convictions, their philosophy of life. It calls also for a genuine liking of his fellow men.

No society can function well without privilege. No nation can long endure unless those who are privileged also assume responsibility and are devoted to the nation's welfare. The privileges of birth have faded; the privileges of wealth are taking new forms. Those who are privileged today are those who have had full opportunity to learn, who have been enabled to acquire culture. They are still few among the great mass of the people and it is their duty to lead. They are found in the professions, and they are found in business, for management of business is now a profession. The touchstone of a true profession is ministry to the people, exercised with pride, insistent upon the authority which true scholarship should command. The professions are burdened by charlatans, hypocrites, by stuffed shirts; I do not speak of these. I speak rather of that small company of those who lead, who guide their fellows over rough places, who determine the course of all our affairs, by reason of their superior knowledge and their ability to use it wisely. These are the men of culture in its modern and its salutary sense. It is they who, by reason of their knowledge of things and of men, by reason of wisdom based thereon, are building the world in which our children may lead happy lives.

As we view the vast range of science and the humanities, as we watch them grow at a breakneck pace, as we contemplate the frailty of our intellect in trying to grasp it all, there is a development today which may come to our rescue. It may not come in time to significantly lighten the burden of the generation here represented. In the long run it will transform the lives and the thoughts of men.

Some generations ago there began the industrial revolution. Men learned to harness power to supplement their muscles. We have seen this expand, as science has become broadly applied, until it has transformed our production, transportation, communication, until it has overcome diseases and promised relief from mental abnormality, until it has shown its ability to banish poverty, and to guard men from the ravages of nature. It has rendered war absurd even though it has made it terrible and not impossible. It can remove the evils

which have caused wars in the past if we allow it to do so. It can render this earth a pleasant place on which to live.

We are at the beginning of a new revolution. Man is today building machines that think, that can thus aid him to manage the complexity which he has created. So far these are simple machines, complicated, but not complex. They aid him in his business computations, handle for him great masses of data, and solve his mathematical problems. But thinking machines are still in their infancy. In time they will become mature. They already compose music, play chess, translate languages, write poetry, not well for they are still young, but they will soon be taught to do better. They can learn from their own experience. They can communicate with one another. Their memories are still limited but are growing, and their memories do not fade. They can attack, and they do, problems where the very magnitude of the data involved, or the abstruseness and extent of the mathematics necessary, or the subtlety of the economic interrelations involved, render unaided man's attempts at solutions childlike. They will always be man's slaves, for a man can do without a machine and a machine cannot do without a man. In their full maturity they will extend the power of man's mental processes as fully as the machine has extended his manual strength and dexterity. They will enable man to understand things, and to understand men, in ways and to an extent impossible without them. They have not yet arrived; they have just begun to function. They are now limited in their talents; in maturity they will be limited only by the fact that they are not men. They may arrive in time to prevent us from becoming so immersed in complexity that we lose sight of simple and homely truths, that we lose the wisdom without which this civilization of ours cannot endure.

I have discussed the culture which is the basis of wisdom: wisdom in the practical affairs of men. If I stop here you will know that I have omitted something subtle and precious. I do not intend to stop here.

Before I conclude, let me first speak of the rewards of culture as we have thus far treated it. The rewards are great but they do not come to every man who deserves them. Many a wise man is struck down by illhealth and ill-luck in the midst of a career. Many a one, also, abandons a bright trail because of obligations to those he guards. But even to all these there is a satisfaction if they have labored well. The rewards are changing, they are being revalued, and they are often misunderstood. Holmes said, "the reward of the general is not a larger tent, but command." The true reward is not even command, it transcends command. Many a man who has attained great power, by affluence or position, is not a happy man. Many a humble man is happy indeed. Satisfaction, happiness in accomplishment, does not arrive merely because a man secures public acclaim. Some of the most unhappy, the most discontented people in the world circulate about Hollywood.

(Concluded on page 32)

A New Home for M.I.T. Coeds

Stanley McCormick Hall, dedicated this fall, will house 116 women handsomely on campus

The Young ladies at M.I.T. now are more happily housed than ever before, thanks to the opening this fall of Stanley McCormick Hall. Given to the Institute by an alumna, Katharine Dexter McCormick, '04, in memory of her late husband, it is one of the finest college dormitories in New England.

Although never barred from M.I.T., few women were prepared for its courses when Mrs. McCormick was an undergraduate. The number qualified and eager to enter the Institute's five schools has risen markedly in recent years, and now for the first time they have a per-

manent home (pictured below) on campus.

At its dedication on October 7, Mrs. McCormick recalled the interest of Emma Savage Rogers, the wife of the Institute's founder, in the welfare of students. Mrs. McCormick expressed her regret, too, that Ellen H. Swallow, '73 (Mrs. Robert H. Richards), the first woman student, and Lydia G. Weld, '02, the first woman to receive a degree in engineering, had not lived to see this dream of many Alumnae fulfilled.

"I hope you like it," she told President Julius A. Stratton, '23, as she concluded her brief remarks, and

spokesmen for the Corporation, Faculty, Alumni, and students joined in assuring her that the Institute does like it. Mrs. Burnett M. Pitt, '39, mother of a coed living in the new dormitory and President of the M.I.T. Women's Association, announced that her organization was contributing \$1,000 worth of books for the new building's library, and Margaret Macvicar, '65, as President of the Association of Women Students, expressed the undergraduates' gratitude.

The Corporation's Chairman, James R. Killian, Jr., '26, presided at the dedication ceremonies in the sunny courtyard, and many members of the Corporation

and their wives were present.

"M.I.T. believes that a strong residential program designed to enhance the education of students is a sound objective," President Stratton has said, "and this new residence for women will contribute significantly to that end. Not only will it enable us to increase the number of women students we can enroll, but it will provide for the first time at M.I.T. a proper setting for their residential and social life. The Stanley McCormick Hall, in sum, gives M.I.T. an unprecedented opportunity to



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advance the intellectual and social development of its women students."

About half of the women now enrolled will live in this \$2,000,000 hall. The building occupies 15,000 square feet of a convenient 40,000-square-foot site on Memorial Drive, and is an eight-story, concrete structure on a floating mat foundation, with a first floor that extends along three sides of a protected courtyard.

Vertical ribs of limestone are superimposed over the structure's exterior to form a geometrically even pattern over the whole surface and the irregular patterns of the windows. This ribbing, says Professor Herbert L. Beckwith, '26, is a design element introduced to lend grace to the relatively large structure, to give shadow pattern, and to scale down the building's appearance in keeping with the Georgian scale of nearby structures. The limestone veneering also keeps it in accordance with older traditional M.I.T. buildings.

A large glass entry on the north invites one to enter it from the Kresge Auditorium, chapel, and other campus buildings. The reception desk and mailboxes are in a wide hallway leading to the parlors and elevators. The hall's floor is covered by beige-gold carpeting, custom made in Puerto Rico, and there are leather furnishings which make it a comfortable place in which to wait.

Across the courtyard, on the river side of the dormitory, is a 60-foot-long living room with a grand piano and fireplace. Nearby is a coffee room and a large dining room, with its lighting softened by off-white Japanese lanterns. There are also two small "date" rooms, papered in Japanese grass cloth, on the main floor, and an office for the dormitory's manager.

The predominant colors in the interior are tones of brown, gold, green, and beige, carried out in walnut furniture, mahogany doors, gold linen drapes, and the upholstered furniture. The contemporary design is accented and softened by oil paintings and panels, mirrors in gold frames, and etchings from Mrs. McCormick's private art collection.

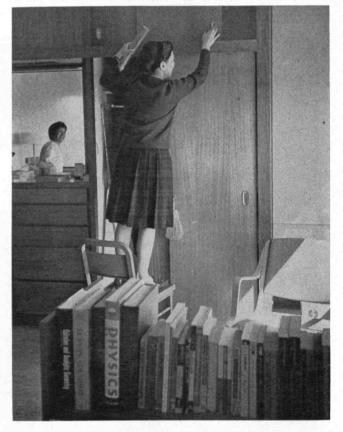
For the 116 residents there are 26 double rooms (14 by 22 feet) and 64 single rooms (10½ by 14½ feet) on the upper floors. These have built-in African mahogany closets, chairs and lamps of contemporary design, and bookcases on rollers. Every room has an Institute phone, and there is a lounge and kitchenette on each floor. Other conveniences for the girls include laundry rooms, shampooing sinks, extra-large desks for spreading out school work, and acoustically lined typing cubicles. A glassed-in penthouse lounge and sundeck on the eighth floor offers a splendid view of the Charles and Boston.

The housemaster, Lynwood S. Bryant, Associate Professor of History, and his family have a five-room suite on the second floor, with a living room on the river side. A double room is also available on that floor for guests of the Institute.

Anderson, Beckwith & Haible of Boston were the architects, and the George A. Fuller Company the construction contractor. Lois Clapp Olds was the interior designer and Sasaki, Walker & Associates the landscape architects. Syska & Hennessey, Inc., did the mechanical engineering; Severud, Elstad, Krueger Associates, the structural engineering; and Edwin P. Mahard, Inc., the electrical work.



THE MAILBOXES, near the reception desk in Stanley McCormick Hall, are the new hub of an M.I.T. coed's life.



BUILT-IN FURNISHINGS made it easy for the new dormitory's occupants to settle down to their studies.

How Coeducation Came About

Mrs. Stanley McCormick, '04, and other ladies made the men at M.I.T. staunch believers in it

BY BETH BOGIE

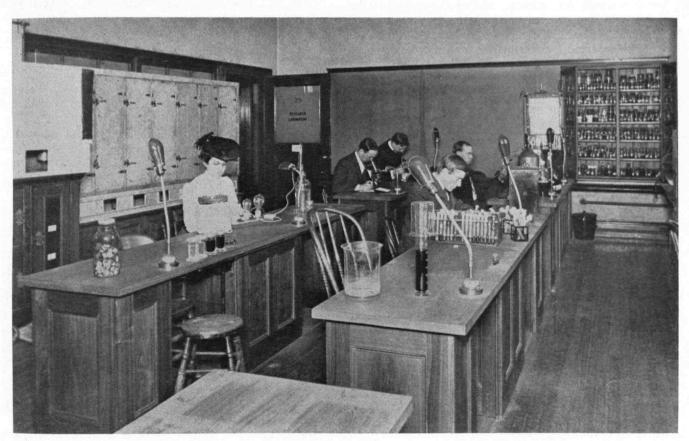
Student Affairs Editor, Office of Public Relations

In 1900, Henry Smith Pritchett was inaugurated as president of "Boston Tech"; June saw the graduation of 185 seniors, and M.I.T. was one of two schools chosen to represent U.S. institutions of higher education at the Paris Exposition.

That same year that turned the century, Miss Katharine Dexter was admitted to Tech as a regular student. She had been born in 1875 in Dexter, the Michigan town her grandfather had founded, had grown up in Chicago, and recently had returned to Boston, a city that had known her family since 1643. Because her earlier schooling was in music and French rather than science, she already had studied three years at Tech as a part-time special student. She commuted to classes, first from Prides Crossing, and later from her home in Back Bay. After her graduation in 1904, Miss Dexter became Mrs. Stanley McCormick, and Stanley McCormick Hall, which she formally gave to the Institute this fall, now enables coeds to live on campus.

Forty-four women were students at the old Rogers and Walker Buildings in 1900, along with 1,233 men. "Many more of the women were special students than regular," Mrs. McCormick recalls. "Very few came who were headed for degrees. Very many were ill-prepared." Miss Dexter studied biology under Professor Percy G. Stiles, '97, and did her senior thesis on "Amphibian Musculature." She traveled to classes by streetcar, as most girls and men did in those days, and wore old clothes to work in the laboratory.

"Studies were less specialized than they are today," she relates. "We were learning basic things." She had laboratory sessions in the Walker Building and later in the Pierce Building, which then stood near the site of the east entrance of the present Sheraton Plaza Hotel. She knew most about the people in architecture and biology, because "architecture was at the top of the building and biology underneath." Mrs. Ellen H. Richards, '73, she remembers "was well established at



KATHARINE DEXTER (the future Mrs. Stanley Mc-Cormick) did not ordinarily wear "that hat" in the chem-

istry laboratory in 1900. She had just hurried back from another engagement when the photographer arrived.

that time," and there was an architecture professor named Desire Despradelle "whom everyone called 'Desperate Bill.'

There were then no activities for women, and men and women seldom spoke to each other, even in class. But, "I do remember speaking to one once," Mrs. Mc-Cormick says. Dress was strict, but her ideas reflected the fabled M.I.T. practicality. "I remember being sharply commented on, about the shorter length of my dress," she explains. "'Well,' I said, 'I don't want it to touch the floor.'"

Katharine Dexter found in 1900, as Mrs. Richards had earlier, that space was lacking for women who wanted to study science. She knew she especially wanted to study biology. "From the very beginning," she says, "living tissues had a tremendous pull over me." She visited Harvard and talked to the head of the new women's division, Radcliffe College. There Miss Dexter asked if she might also study chemistry, and where were the laboratories? "We do our chemistry in the bathroom," she was told.

Miss Dexter promptly headed for the Rogers Building and talked there to Charles-Edward A. Winslow, '98, Professor of Biology. "You're going to have an opportunity to use these laboratories," he said, and Mrs. McCormick recalls: "I looked around, and I thought—why, of course, why not?"

Her marriage later to Stanley McCormick, "a friend from teen-age days in Chicago" and a graduate of Princeton, curtailed her plans to teach and to become a surgeon. But her education certainly was not wasted. As Treasurer of the National Women's Suffrage Movement, she contributed to the successful ratification of the Nineteenth Amendment, and at the outset of the first World War, she sat on the woman's committee of President Wilson's Council of National Defense, to mobilize womanpower behind the war effort. For many years, she has been active in the birth control movement. She worked with Mrs. Margaret Sanger, founder of the Planned Parenthood organizations; she has encouraged efforts of hospitals and clinics, including those in Chicago and Boston; and she has financially supported major research in this field.

Over the years since her graduation she also has kept up with events "at Tech" (which she pronounces with a ring of familiarity) and, often anonymously, has helped its coeds. She has contributed rare books to the humanities library, she gave furniture to the women's residence at 120 Bay State Road when it was established in the 1940's, and for many years she provided a taxi fund that became famous at Tech for getting coeds to classes on rainy days.

"The kind of education that Tech affords is the highest," she says. "It's the method of thinking that it teaches."

"Firsts" Then and Recently

Mrs. McCormick was one of many women early in this century who helped make Tech men staunch believers in coeducation. Other pace-setters included Lydia G. Weld, '02, in naval architecture, the first coed to receive an engineering degree; Ida Annah Ryan, '05, in architecture, the first to earn a master's degree and a traveling scholarship; Mabel Babcock, '08, in landscape architecture, who designed the grounds for the Institute when it moved to Cambridge in 1916; and Florence Stiles, '22, in architecture, who, while serving in the Architecture Department, acted as adviser to women students from 1939 to 1948. The oldest living alumna of M.I.T. is 99-year-old Lois Lilley Howe, '90, of Cambridge, who herself was the first woman elected a Fellow of the American Institute of Architects and was distinguished in the field of New England domestic architecture.

Yet even in the 1960's there have been "firsts" for coeds—Linda Greiner Sprague, '60, was the first woman chairman of *The Tech;* Sheila Evans Widnall, '60, the first woman elected to Tau Beta Pi, and with Linda Greiner, the first elected to Beaver Key, and Frances Dyro, '63, now in medical school at the University of Maryland, was the first woman editor of *Tech Engineering News*.

Mrs. Richards' Achievements

The influence of Ellen Swallow, a graduate of Vassar before entering M.I.T., is legendary. She became the wife of Robert H. Richards, '68, who headed the Department of Mining and Metallurgy, and at the Institute she was a teacher, counselor, and innovator. One story has it that when Professor and Mrs. Richards were married, he combined a geological field trip

(Concluded on page 40)



MRS. McCORMICK'S reminiscent remarks at the dedication of the new dormitory for M.I.T women this fall were heartily applauded. Facing camera, from left, are

Dr. Killian, Dr. Stratton, Mrs. Killian, Mrs. Stratton, Miss Margaret Macvicar, '65, and Mrs. Karl T. Compton. Many Alumni and teachers attended.

"That Pretty Little Lady at M.I.T."

Accounts of the coeds' problems are often greatly exaggerated; being outnumbered has disadvantages . . . but compensations, too

BY PATRICIA EDEN

With sketches by Susan Schur, '60

The girl we want to see
Will have curves that a straight-edge
could not construct.
She'll like to get kissed
or even be walked

To classes 'cross the Court. Her face won't be covered with pimples or fuzz. She won't even know what a slide rule does.

A RESIDENT of M.I.T.'s Senior House sang these lines—and won a prize last spring—but everyone knew he was just perpetuating a myth. The real young women at M.I.T. then and this fall are a poised and knowledgeable group, proud of their association with the Institute, confident, and as well informed as the men about slide rules.

It is currently fashionable in newspapers, magazines, and even books, for sociologists, psychologists, and their imitators to belabor the college woman's problems. My informal interviews with the young women of M.I.T., their advisers, professors, and friends, have led me, however, to suspect that those problems are often exaggerated.

Most of the young women at M.I.T. are of high ability, strong scholastically, and have known the scholastic facts of their lives for sev-

PATRICIA EDEN, the wife of Murray Eden, Associate Professor of Electrical Engineering and Master of Senior House, has become well acquainted with M.I.T. coeds. She was formerly on the staff of the Princeton Alumni Weekly. eral years. Their enthusiasm for the Institute and for an exciting, different life is contagious, and most of them appear to be unusually secure emotionally.

It is perhaps superfluous to add that they are highly motivated, with a sense of dedication to science. There is no doubt in their minds of their good fortune in having chosen and been chosen by M.I.T., and almost all of those I spoke with felt that the advantages far outweighed the disadvantages.

Yet they remain a bit enigmatic to many of the M.I.T. men. "When you learn more about these girls," one gentleman in the Administration told me wryly, "please come and tell me."

The girls are told before they are accepted and arrive on the campus (often they are younger than the average college freshman) that there are several attitudes and prejudices which will not work in their favor:

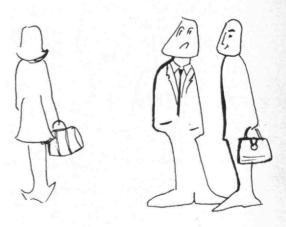
► Parents are sometimes afraid and a little wary of both the choice of a scientific career (M.I.T. coeds establish a major somewhat earlier in the four years than the average student on an American campus) and a campus that is looked upon as allmale. Without exception, however, the girls I have talked with during the last few months feel that their parents no longer have any doubts about their decisions, and usually are extremely proud by the time a girl is ready to graduate. Uncles and neighbors in their home towns are likely to refer to one of them proud-



"And our little girl is going to be an aeronautical engineer. . . . She's at M.I.T. this year. . . "

ly as "that pretty little lady who goes to M.I.T."

► The girls' peers at the time of the choice of a college (junior or senior years in high school) may speak negatively about choosing M.I.T. as a university. Most are amazed. When an admissions officer or alumnus arrives to speak to a group of young people about Tech, the



"You mean there are girls here?
... Why don't people ever tell me important things?"

guidance counselor or high school teacher may say: "Fellows interested in M.I.T. come to my office

One young lady told me that she was one of 55 students admitted from her region—and the only girl. She is a beautiful and soft-spoken girl, majoring in physics, and she intends to become a physics teacher in a high school. She does not think that this will be a waste of an expensive and exacting education, as one Tech alumnus suggested to her. She recalled her conversation with him vividly and at some length, and apparently he, too, became convinced that our children should have the best possible teachers when they are young. This girl had had a teacher who inspired her to apply to the Institute and she is going to invite him to her graduation.

There are, of course, feelings of loneliness at times which are very hard to cope with. The girls know in advance that they will be a minority on the Tech campus, but knowing in advance is not exactly the same as living with reality. There are fewer people to talk to about their work; an absence of the bull sessions, time-honored in dormitory life. It is harder to discuss a math problem with a roomful of girls than it is to talk about Crime and Punishment or e. e. cummings.

The girls have to spend more time on their clothes and appearance, because they are watched and judged more. Boys can wander over to a lab or computer at night; girls have curfews. Several girls mentioned, however, that the presence of women on the Faculty, both at Tech and the other universities in or near Cambridge, is a source of encouragement: women do succeed.

I asked if it bothered one to be, say, the only girl in a lab, or class-room.

"No," was the reply, "but there is an occasional professor who is too jovial, who refuses to take me seriously . . . but if a girl does good work, the professor usually changes his mind."

"Word gets around if a professor persists in regarding us differently, and we avoid him," said another.

Professors always know your name, and sometimes give you extra attention, several observed; and all felt that there were always enough people to talk to—the house mother, deans, the psychiatric people—and seemed in general to be sympathetic with teachers' and administrators' problems.

"What's the most appealing thing about your majors?" I asked the girls and received such answers as:

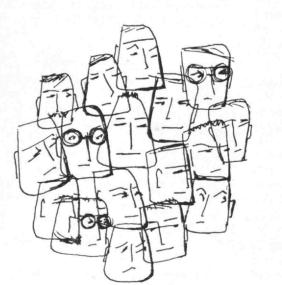
"Excitement of finding an answer . . . discovering something new . . ."
"Presents a challenge . . ."

"Explanation of natural phenomena . . ."

"A stimulating career, and a congenial atmosphere with interesting people . . . men in related fields

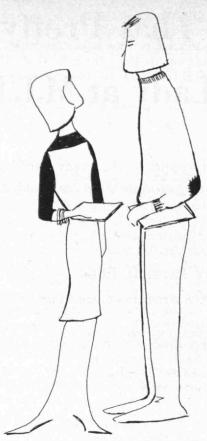
"Do something in this world

And a mathematics major said





"Now tell ME. . . . Why did all of YOU come to M.I.T.?"



"But you look like a secretary . . . and I thought . . ."

slowly: "Order, clarity, and logic appeal to me."

Many, although they date a lot, have deferred plans for marriage. When I asked a question about "how many children?" we had an exciting and informed discussion of world population problems and one young woman said: "Three or four children, perhaps, but children, after all, usually come one at a time."

So we laughed and chattered about marriage and men ("With a ratio of 60 to one, how can you miss?") and metallurgy and math and civil engineering. Most of the girls had been inspired by a man or situation—a father or brother. One girl grew up in Bethlehem, Pa., and had read everything she could find about metals in high school. Some of them probably are so enchanted with college life and science and technology that they may find the real world a rude shock; some of them may have developed what I shall call (without any malice at all) a Madame Curie feeling which will make life difficult and complex for them. But, they are so bright and pretty and enterprising and sure, that I was delighted rather than worried after my chats with them.

An Alumna's Architectural Career

She was the only girl in a class with 65 boys,
—but she had a flair for remodeling old homes

BY LOIS LILLEY HOWE, '90

BORN and brought up in Cambridge, I went to the Cambridge High School where I was fitted for Harvard College, and took the entrance examinations. Most of the girls in my class went to Radcliffe, then known as the Harvard Annex, but I went for four years to the School of the Museum of Fine Arts, making a specialty of design. I was one of C. Howard Walker's ['99] first pupils.

I tried to make something out of this in the next two years but without success. Meanwhile, in January, 1887, my father died. He had had a long illness and had advised my mother to sell our big house with an acre of land near Memorial Hall and build a smaller house. She was fortunate enough to dispose of the house almost immediately to the Reverend Francis G. Peabody. It has been known since as "the Peabody House."

We had a straight staircase and I had worked out in my mind how this could be altered into one with landings. Mrs. Peabody wanted to have this done, but her architectural brother-in-law, Robert Swain Peabody, '68, said it could not be done. She said that I had told her it could be, and I proved to be right! This trifling incident proved to be very important to me. Meanwhile, the firm of Cabot and Chandler planned and built a house for us. Francis W. Chandler was an old friend of the family.

Always interested in houses, I had wanted to be an architect but had been suppressed by my pastors and masters on the ground that I could not be an architect because I was a woman. I practically lived at our new house while it was being built, and realized that this was what I wanted to do. So I went to see General Francis Amasa Walker, the President of the Massachusetts Institute of Technology, and asked him if I could be admitted as a student on a six years' old certificate of entrance to Harvard, to which he agreed.

Just as I entered Tech, our architect, Mr. Chandler, became the head of the Department of Architecture, which added much to my interests. I was the only girl in a class with 65 boys, and Sophia G. Hayden, '90, and I shared a drafting room with about 90 boys.

I entered with the Class of '92 but made the mistake of only taking what was then called the course in "Partial Architecture," two years instead of four. I felt that I was very old to be starting in life, being all of 26. Mrs. Walker saw to it that I had a five-class day and I never realized for many years that this would class me with '90 so that I have always been a sort of hybrid!

An interested friend got me a job as draftsman in the office of Francis R. Allen, '78, and there I worked



THE PEABODY HOUSE was a challenge, and Miss Howe saw how to turn its staircase into one with landings.

until 1892. While I was working there I received a telegram from Robert Swain Peabody who was one of the committee building the Columbian Exhibition at Chicago. He suggested that I should enter a competition for the Women's Building at the exhibition. I told Sophia Hayden, and we went to work. We should have gone into partnership but we did not, and she got the prize and built the building! I got \$500 and planned to spend it on a trip to Europe, but my mother and sisters decided to rent the new house and all go abroad together, so we started off in 1892 and stayed 15 months. I got home in October, 1893, and went at once to see the exhibition in Chicago.

Next year, a friend who was just married gave me a commission to build my first house. But there was no place in Boston for a female draftsman, and moreover there was a great "depression." For a time I was part-time librarian in the Architectural Department, which

(Concluded on page 38)

M.I.T. Alumnae

They now fill important, interesting positions, among which those shown here are quite typical



SISTER ST. JOHN NEPOMUCENE (Elizabeth M. Fennessey, '18), seen with a pupil, has headed the Chemistry Department at Trinity College for 30 years. She was formerly an industrial health and safety inspector, and taught in high schools and Emmanuel College.



MARION G. HOGAN, '46, is an industrial meteorologist with a staff of 18 in Boston's John Hancock Building. She specializes in weather worries, pinpoints frost warnings for cranberry growers, and tells New York's and other cities' officials when to go plow snow.



FLORENCE F. BUCKLAND, '20, serves General Electric now as a consultant on heat transfer problems. She formerly worked in the Steam Layout Section of GE's Turbine Department, then took 16 years out to raise a family. Her son, Lawrence F. Buckland, was graduated from M.I.T. in 1952 and is now president of Inforonics, Inc.



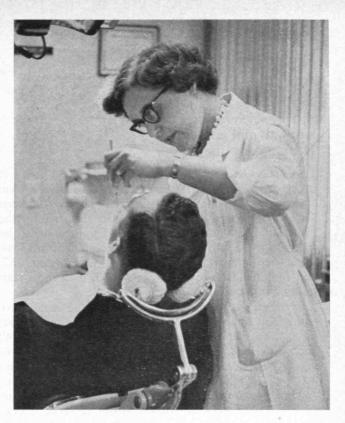
JOYCE P. DAVIS, '55, has designed shielding for a nuclear aircraft engine test facility, studied radiation effects at Hanford, and grappled with saline water processing and computer applications. Now with Burns and Roe, Inc., in New York, she has worked at Yale, Brookhaven, and the National Bureau of Standards in Washington.



DR. MARIAN W. ROPES, '26, this year became the American Rheumatism Association's first woman president. She is associate clinical professor of medicine at Harvard Medical School and physician at Massachusetts General Hospital, and has contributed scores of papers to professional journals regarding a great variety of research.



MARY MORRISON KENNEDY, '25, is the Sheraton hotel system's vice-president responsible for decorating 31,770 rooms, halls, and "specialty" restaurants in hotels from Israel to Hawaii. She is at home with all periods and motifs, classic or contemporary.



FRANCES ROSS KARLAN, '42, is supervisor of dental services for the Metropolitan Life Insurance Company and president of the American Association of Industrial Dentists. From M.I.T. she went to Columbia University's Dental School and now teaches there.



GERTRUDE G. HARRIS, '24, went from technical library work to the Methodist ministry. Shown here, at left, with a friend, she is associated now with the Koinonia Foundation of Baltimore, which prepares professional people for service abroad. Thus, she utilizes her education in both science and spiritual matters effectively.



SHEILA EVANS WIDNALL, '60, is developing a program to study hydrofoil surfaces on the IBM 7090 in the M.I.T. Computation Center for a doctoral thesis. As an undergraduate she was one of the first women ever elected to Beaver Key. Her husband is a classmate, now working on the Apollo Project in the Instrumentation Laboratory.



RUTH A. DEAN, '29 (interior designer, Pembroke and Rutgers dormitories, Museum of Science), and DOROTHY W. WEEKS, '23 (physicist, Wellesley and Wilson Colleges, Watertown Arsenal), were on M.I.T.'s Second Century Fund team. Dr. Weeks heads the American Association of University Women in New England.

23

Trend Of Affairs

Alumni and a System Heading for the Moon

THE FIRST AMERICAN to set his foot on the moon is expected to be guided to a landing there by a system designed at M.I.T. and may himself be an Alumnus. Three of 14 men who were chosen this fall by the National Aeronautics and Space Administration to be trained for the trip have M.I.T. degrees. They are Russel L. Schweickart, '56, Captain David R. Scott, '62, and Major Edwin E. Aldrin, Jr., '63. They will start training in Houston in February.

Mr. Schweickart is the youngest of the new astronauts, and one of only two civilians in the group, but has served five years as a fighter pilot. He has both bachelor's and master's degrees, and has been working in the Division of Sponsored Research. Captain Scott has a master's degree as well as the degree of engineer, aeronautics and astronautics, and is the son of a brigadier general. Major Aldrin received a doctor's degree from M.I.T., and is the son of Edwin E. Aldrin, '17, who also has an M.I.T. doctorate.

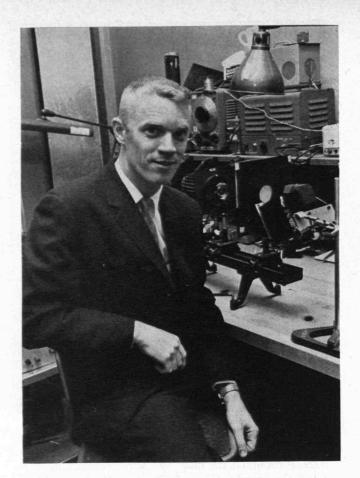
The M.I.T. Instrumentation Laboratory designed the guidance and navigation system that is being produced now for the Apollo spaceship, and NASA announced this fall that it also would negotiate with this laboratory to direct the over-all development of a similar system for the Lunar Excursion Module (LEM). This module is expected to take two of three astronauts aboard the Apollo to and from the surface of the moon while the main vehicle circles the moon at an altitude of about 80 miles.

As many parts, components, and subsystems in the LEM system as possible will be directly interchangeable with those in the Apollo system. They will be produced by the same four companies that have worked closely with the Instrumentation Laboratory on the Apollo system. The work to be done by the five contractors is expected to cost more than \$60 million.

"Ever since I can remember," Mr. Schweickart told reporters, "I've looked at the moon and wanted to go there. I think this moon program is the most exciting thing that this or any country has done in several centuries."



Astronauts being briefed at M.I.T. on guidance problems.



Mr. Schweickart in the experimental astronomy laboratory.

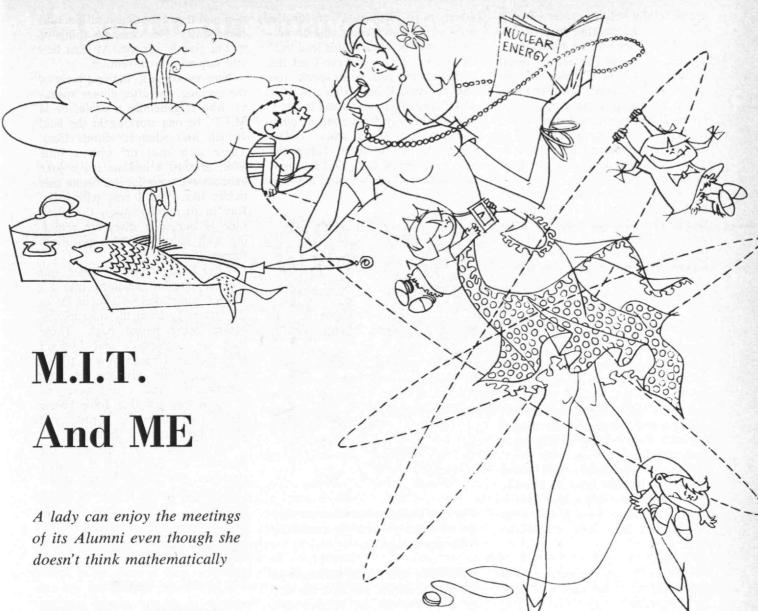
Joe Scanlon's Plan Is Still Working

M.I.T. was host this year—for the 11th time—to a Scanlon Plan Conference, yet few people on the campus can correctly explain the difference between a Scanlon plan and a thingamajig. For three days in October, managers and labor leaders in a surprising assortment of industries met to discuss the Scanlon plan, yet none of them put a formula for it on a blackboard.

The idea is now 25 years old. Joe Scanlon was a union organizer in a steel plant that was headed for liquidation in 1938. He and others found a way for both its management and workers to make more money by increasing their productivity. His method came to the attention of Professor Douglas M. McGregor of the M.I.T. Industrial Relations Section, and Mr. Scanlon came to the Institute in 1946 to explain his idea to others. He died in 1956, and his work has been continued since by Frederick G. Lesieur, a former union president at the LaPointe Machine Tool Company in Hudson, Mass.

Professor Charles A. Myers, Director of the Industrial Relations Section, opened this year's conference by pointing out that the Scanlon plan has helped many companies and unions adapt to rapidly changing situations. It has done this largely by influencing the attitudes of managers and workers toward each other.

Increasing specialization, Mr. Lesieur then went on to point out, can easily result in under-utilization of people's interests and know-how. Consider, for example, the plight of a foreman in a factory. Once he hired (Continued on page 34)



BY POLLY PARK

THANK my lucky stars that I got married before they started matching up couples with IBM machines, like I've seen them do on television. He likes golf—she likes golf. He wants three children—she wants three children. He works as an accountant—she's a checker at a supermarket. And so they meet, marry, and for all we know, live happily ever after.

Mine would have come out something like this. He likes sailing—she likes walking. He wanted two children—she wanted four. He, a graduate of M.I.T. and president of Trylon Incorporated, deals with technical data daily, while she, a graduate of no college, stopped functioning mathematically when the first long division problem was introduced in the third grade.

There's no denying it; the IBM machine would have a mental breakdown were it responsible for bringing us two together.

And now, four children later, I say that although our marriage is unique, it's a sound one based on need. I need that computer mind of his like a scurvy victim needs a lemon. And he needs me. I asked him why he needed me the other night, and after an embarrassingly long silence, he said he guessed he needed a break from logical think-

"Besides bringing up four children I attend every M.I.T. meeting that comes to Philadelphia."

ing. So there, you see we've got a firm foundation.

Oh, it takes a little give-and-take to keep things going well. He gives all of his free time to balancing my checkbook and along with that chore he keeps the accounts for the West Chester Garden Club of which I am treasurer. He did a superb job with the latter even going so far as to revolutionize their accounting system. The applause at the end of my report was deafening.

Now don't get the idea that I don't do my share in this marriage. Besides bringing up our four children, I attend every M.I.T. meeting that comes to Philadelphia. These

MRS. PARK is the wife of Peter G. Park, '40, of Elverson, Pa. This article and the drawings by Thomas F. Darcy are reprinted with permission from The Philadelphia Sunday Bulletin Magazine.

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are generally held in center city hotels where the cocktail hour is followed by dinner in the ballroom.

Here tables of 10 are arranged around the speakers' table, and one may sit wherever one chooses, which results in some pretty interesting dinner partners. I can't speak for the other women present, but as far as I'm concerned I have yet to draw other than a physicist (nuclear or otherwise).

As conversationalists, you can't beat them. They are dedicated to two causes: the one they are presently working on, and that of explaining it in minute detail to whosoever will lend an ear. Before our napkins are unfolded we are well into radar or propulsion.

An Electric Situation

Sometimes I like to play a little guessing game as to what the occupation of my dinner partner might be. This last time, at the Barclay, I was sure I had it; electrodes! He was a little round-faced man who wore a constant surprised look. But what really made me certain of his occupation was his hair, which stood straight up on his head as if some invisible current caught and held it there. Cautiously, I asked him what he did. In a slow southern drawl he replied:

"Fishin', Ma'am."

This was hardly the answer I expected. If what he said was true, he was certainly the first M.I.T. graduate that I had run into whose sole purpose in receiving four years of technical education was to enable him to sit by the riverbank with rod and reel! It was only natural that I followed this up with:

"Fresh or salt water?"

Whereupon he looked at me as if my hair had caught the current and answered:

"Fission, Ma'am, F-I-S-S-I-O-N."

Despite a setback like that every so often, I usually manage to actively participate in all of our conversations, much to the amazement of my husband. As I explained to him, it is really quite simple if you prepare yourself in advance with a few abstract questions that can be used when the inevitable pause comes (the man has to eat sometime).

Then you select from your wellused stock such thought-provoking ones as, "Have the Russians overtaken us in this field?" or for the man you haven't been able to follow at all, "Where will this lead us?" Of course, if you just can't get the rocket off the pad, so to speak, you can always ask him what's new at M.I.T., which is guaranteed to carry you all the way from soup to nuts.

There are times when I feel downright guilty about being the sole recipient of such vital information as that which was told me only



They are dedicated to whatever they are working on—and "to explaining it in minute detail."

recently by one of the inventors of the atomic bomb. He took me step by step through its development, all the way from the first idea to the finished product. We explored the many problems they had encountered and do you know I stayed with him until he hit the isotopes.

Then, like a glider released from the mother plane, I flew on down to earth where I wrestled with an even greater problem of my own. That of whether to take my daughter Polly to the dentist a half an hour early in order that I could watch Lewis play in a soccer game at the Westtown school.

Now, that's just not fair when you think of all the young scientists in the country who would have given their eye teeth to have heard what I heard, straight from the inventor, himself.

You can look at it the other way, though. What if that had been some spy he was telling all that to? He would have listened with rapt attention and then reported it all back to his country. No, come to think of it, I'm glad it was me. At least he's still safe with his invention.

Now we come to the real meat of the evening, the after-dinner speaker, who is generally a professor at M.I.T., or one working in the field (which isn't what it sounds like). These men start off with a little joke; at least I assume it's a joke because everyone laughs. Some side tickler like, "As I was telling Dr. Ray in thermodynamics, the platitude of our solar discs are radiating with inertia." Which positively brings down the house.

After finally restoring order, our speaker plunges headlong into his subject, sometimes walking as far as 20 feet away from the microphone before being pulled back. These men are frightened, and I don't blame them. I mean they're frightened about the outcome of their experiments. And if you were one of those who felt that John Foster Dulles took us to the "brink" you should hear some of these men.

Last fall we heard a lecture at the Warwick by the father of inertial guidance. Not having boned up on that subject lately, I listened rather carefully to his tales about the Polaris missile and his trip on the submarine that was automatically controlled, his own invention.

The Q. and A. Problems

At the conclusion we had a question and answer period wherein we discussed propulsion (understand the word "we" is used in the broader sense), when all of a sudden the father looked straight at me and confessed to not knowing whether ball bearings or water would be best to use on his latest invention.

Clearly, I was being challenged! Now I didn't have the answer right on my fingertips, and obviously no one else did either, but I hated to think of that missile sitting on the launching pad waiting for my answer; so after a sleepless night I decided to write him a letter telling him I was game to use ball bearings if he was.

But hold on, we were taken to the "brink" once more a month later at the Barclay. The father of the DEW Line came to lecture to us. He showed us numerous slides of the

(Concluded on page 44)

A Center for Space Research

It will bring together and focus the efforts of many M.I.T. researchers in various disciplines

BY JOHN V. HARRINGTON, '58

Director of the New Center described in this article

THE legislation which established the National Aero-I nautics and Space Administration listed the expansion of human knowledge about the upper atmosphere and space as a principal objective. The expansion of human knowledge is also the business of universities, and their traditional role as custodians, as well as sources of knowledge, makes inevitable a strong interaction between their interests and those of the national space program. Hugh L. Dryden, the Deputy Administrator of NASA, believes that "one of the major byproducts of space research has been a revitalization of education." He was referring to the process of getting young people interested in scientific knowledge again, and also reflecting the space agency's realization from its very beginning that the success of its ambitious program would depend upon the supply of highly skilled, creative engineers and scientists provided by the nation's educational system.

One of the country's most eminent space scientists, James A. Van Allen of the University of Iowa, in discussing education's role in space in 1961, said: "We have immense and rapidly growing ambitions in the field of space exploration, both manned and unmanned. Yet we must confess to a level of over-all competence which is far short of these ambitions. Only if universities are full-fledged partners in the national space effort can we develop the broad-gauge, long-term competence which the public and the Congress so ardently expect."

The Senate Committee on Aeronautical and Space Sciences, in connection with NASA's authorization for university facility training and research grants for fiscal 1964, also noted that: "The success or failure of the national space program rests directly on the skill and training of the people who undertake the effort . . . It is imperative that NASA utilize all capabilities in its intensive scientific effort designed to probe the boundary of present knowledge. In the development of this capability, the universities have a special role."

Centers Elsewhere and Here

In 1962 NASA set up a training grant program whereby 10 universities throughout the country received grants to be used for three-year doctoral fellowships in appropriate fields. Associated with this program, in fact handled by the same office of NASA, was an effort to encourage universities having the right disciplinary backgrounds, competences, and interests to set up centers which would emphasize certain fields in space research.

One of the first of these was established in Iowa, and centered around Professor Van Allen's interests in the earth's magnetosphere and the further exploration of the radiation belts. At Princeton University, a space research center emphasizes research in propulsion. Another, at the University of California at Berkeley, includes research in several fields but principally in electromagnetics and upper atmosphere physics. Building grants were given to the University of Pittsburgh and to the University of Chicago, too. At least half a dozen got under way before an M.I.T. Center was actively discussed, and there are many more today. It is fair to say, however, that one of the most general and possibly the largest is that at M.I.T.

The origins of the Center for Space Research at M.I.T. are traceable to conversations between James Webb, Administrator for NASA, and President Stratton, Vice-president McCormack, and other M.I.T. men late in 1961. In the course of these conversations, the Institute was encouraged to consider the specific role it might play in increasing the nation's graduate education and research in space-related fields. In January, 1962, a committee under the chairmanship of Provost Townes was organized to recommend M.I.T.'s response. The committee surveyed the space-related research, which was already considerable, then in progress on the campus, and further undertook to establish by survey the extent of Faculty interest in the expansion of such research.

This took considerable time. M.I.T.'s Faculty is heavily committed to many projects, and the superposition of a new problem on a busy group does not always lead to its rapid solution (the old adage about consulting the busy man notwithstanding). In the fall of 1962, nevertheless, a broad plan was described involving expansion of certain research in the space sciences and space technology, increased numbers of training grants, and improved facilities for housing this expanded activity. There was general agreement on the proposed plan, and Mr. Webb and President Stratton signed a Memorandum of Understanding in December that became essentially a charter and stimulus for increased teaching and research activity within the Institute's space-related fields.

The formula in the Memorandum of Understanding was based on: Support by NASA of a general research program in the space sciences and engineering; continuing support of many more specific investigations in this area but covered by separate proposals; joint funding by M.I.T. and NASA of a building on the campus to house the growing program of research; and

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establishment of a laboratory within the Center to provide staff and research facilities for basic experiments in space. The elements of this plan were amplified in a research proposal submitted last April, and this fall the Center received its initial general research grant of \$500,000 for the first year of operation. Our next step is simply to go to work.

A Focal Point for Many

M.I.T. has been active in important fields of space research for many years. The work of Professor C. Stark Draper, '26, and his colleagues in the Instrumentation Laboratory on inertial navigation and guidance technique, that of Professor Bruno Rossi and his group on cosmic-ray phenomena, interplanetary plasma, and gamma-ray astronomy, and the experiments in space communications, radio and radar astronomy at Lincoln Laboratory and the Research Laboratory of Electronics, are examples of such activity. There are, of course, many others.

Since all of this space research is well established and making good progress, why does M.I.T. need a space center? What additional purpose will it serve? The answer lies in the focusing and more stable support of the needs of smaller space research activities. Such research tends now to be scattered and diffuse, and in many cases it can be strengthened by better facilities and collaboration with others in allied fields.

There are now no common facilities and there is no common program to stimulate workers in various disciplines to join together in pursuit of complex objectives pertinent to the national space program. The need for a building to house such a multidisciplinary program is quite acute. So is the need for general research monies to avoid the inhibitions and inefficiency encountered in writing proposals for quite modest investigations. The principal function of the Space Center will be to stimulate education in the space-related disciplines by providing the physical and financial means to give focus to the on-campus space research program.

The Center will encourage the Faculty and students in the life sciences, the social sciences, the physical sciences, and the various branches of engineering to communicate with and to support one another in the common pursuit of complex research objectives. The breadth of disciplines involved will be the characteristic distinguishing the M.I.T. Space Center from space centers at other universities.

The new Space Center will certainly not attempt to incorporate all of M.I.T.'s NASA-sponsored research, although it will undoubtedly have ties to all such activities. The Center is expected to emphasize the more fundamental aspects of space research and to encourage suitable doctoral thesis research, but leave to the larger, better-equipped laboratories at the Institute the responsibility for more extensive experimental and engineering enterprises.

Features of Its Program

In its day-by-day operations the Center is to be administered by a director and Lawrence E. Beckley, '42, its administrative officer. They are to be assisted in the development of the technical program by a committee drawn from members of the Faculty whose own work is within the Center's program and who represent the principal disciplines involved. Pertinent activities and interests of the School of Engineering, for example, will be represented by Professor Erik L. Mollo-Christensen, '48, of the Department of Aeronautics and Astronautics and by Professor J. Francis Reinties of the Department of Electrical Engineering.

No attempt is being made to cover all of the subjects possible in the large field of space technology but a few important themes have been identified which match the interests and competence of the Faculty. For example, some basic studies in fluid mechanics are being sponsored which include analyses of the interplanetary gas flow, flow in turbulent media, and the gas dynamics of supersonic combustion. Another group of studies is concerned with space-propulsion systems and includes some investigation of momentum transfer in low-density gases, several kinds of particle accelerators, and some basic studies related to nuclear propulsion systems. A third theme is centered on investigation of space-vehicle power sources and includes some fuel cell research and energy-conversion studies involving solar and radioisotope sources. The Faculty involved in these studies is from the Departments of Aeronautics and Astronautics, Mechanical Engineering, Chemical Engineering, Electrical Engineering, and Nuclear Engineering. A fourth topic, receiving the attention of the Department of Metallurgy, is concerned with the behavior of materials in space, particularly the long-term effect of the high vacuum and radiation environment on such materials.

Also associated with this general research program, but funded separately, are fundamental studies of interplanetary navigation, research on space communication techniques, various radio astronomical studies of terrestrial and planetary atmospheres, and the early consideration of a new radio technique for probing the extended solar corona.

From X-Rays to Foreign Policy

In the physical sciences, represented on our Technical Committee by Professor Rossi, the interest is centered about investigations he and his colleagues have had under way for some time. These include measurement of the properties of the interplanetary medium, and work in gamma-ray and x-ray astronomy. The general research program also will sponsor study of meteoritic phenomena by members of the Department of Geology and Geophysics, and hydrodynamical studies of the solar atmosphere by members of the Department of Mathematics.

The life sciences are represented by Professor Nevin S. Scrimshaw, Head of the Department of Nutrition and Food Science. The emphasis here is mainly on nutritional studies believed pertinent to the long-time support of man in space, but a secondary objective closely associated with these is the investigation of closed-cycle, life support systems; and, there is also some early activity in space biology by members of the Biology Department.

Lastly, we have a modest (in terms of money it is modest, but in terms of its impact I believe very great) activity in the social sciences and industrial management under the general direction of Professor Robert C. Wood of the Department of Economics and Social Science. This is an aspect of the space program in

which Mr. Webb takes a deep personal interest. It is asserted that, in addition to the major scientific and technological challenges inherent in the national space program, it is likely to bring economic and political benefits to the nation and world. It is of great importance, therefore, that nontechnical aspects of the program be studied by social scientists in close association with their colleagues in technical and scientific disciplines. There is a particular interest in the study of the space program as an instrument of foreign policy, and one of the contributions a university might make would be to promote co-operation in certain projects with foreign scientific groups. There are some specific possibilities here that should be studied, and co-operation with foreign scientists is one of the objectives listed in the National Space Act.

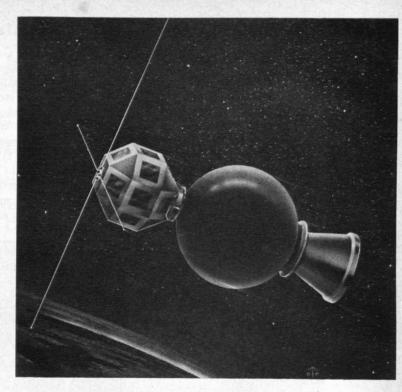
We have managed, then, to set up a broad program of space-related research which is consistent with the interests and availability of the Faculty. The diverse membership of the Center's Technical Committee has already, in the course of its deliberations, stimulated interdisciplinary communication and established certain areas of mutual interest. The situation will be better when we have our own building in which representatives from these different disciplines can be housed in

close proximity.

In October, 1963, we received an initial research grant of \$2 million to be spent over a three-year period; \$1 million of this was for the Center's general research program, and the second million for special projects. The annual rate of the general research program for the first year will run at \$500,000. The remaining funds are so-called "longevity funds" and provide for the continuation of the research program in subsequent years. The original plan anticipated that during the second and third years of operation further general funds would be provided to about double the initial level, although the present views of the Congress make this far from certain. Over and above the general funds, there will be funds for specific investigations which are expected to total some four times the general funding. The total program of the Center, several years hence, may involve a budget in the \$5 million-per-year range and will probably stabilize at that point.

The Building Plans

The building to house this multifaceted activity is being designed by the architects, Skidmore, Owings and Merrill, who are studying the development of the northern part of the campus. The building will cost \$4 million, of which \$3 million will be provided by a NASA facilities grant and \$1 million by M.I.T. In addition, M.I.T. will provide for its maintenance and upkeep. The building is to be owned by M.I.T. and be on a site now occupied by one-story buildings on Vassar Street.



A probe to orbit the sun and measure properties of its corona has been proposed by workers in the new center.

Architectural plans for the Space Center, and indeed for several of the other buildings that are expected to be erected in the northern part of the campus over the next several years, are well along. The Space Center building will contain about 100,000 square feet of which some 70,000 will be useful or net space. The building is to be five stories high and its exterior probably will resemble that of the Compton Laboratories. The building will be largely light laboratory and office space. The schedule calls for plans to be completed late next spring and construction to be under way by next summer. The actual construction will require about two years, so our growing program will have a permanent home about three years from now.

The problem of housing some of our activities for the intervening three years is an acute one, and the Institute now has plans to rent space nearby for some of the special laboratory activities that the Center requires. Space will also be rented for the Center's administration, and perhaps one or two projects, but many researchers in the program will simply have to make do with what space they have until our new building is completed. This will not help very much in emphasizing interdisciplinary communications, but by the time the building is finished we should be able to move in with a really good, going program.

How Old Is the Ocean?

Where did the water come from? And how did it become salty? Professor William Von Arx, '55, will discuss these questions in a Technology Review article this winter—the way he did at the first annual Alumni Seminar on campus last September.

How Was Yosemite Surveyed?

François Matthes, '95, contributed much to knowledge of America's mountains, and his career is reviewed in a new book published by the Sierra Club. J. J. Rowlands will describe the man and his work in a report on the book for Technology Review soon.

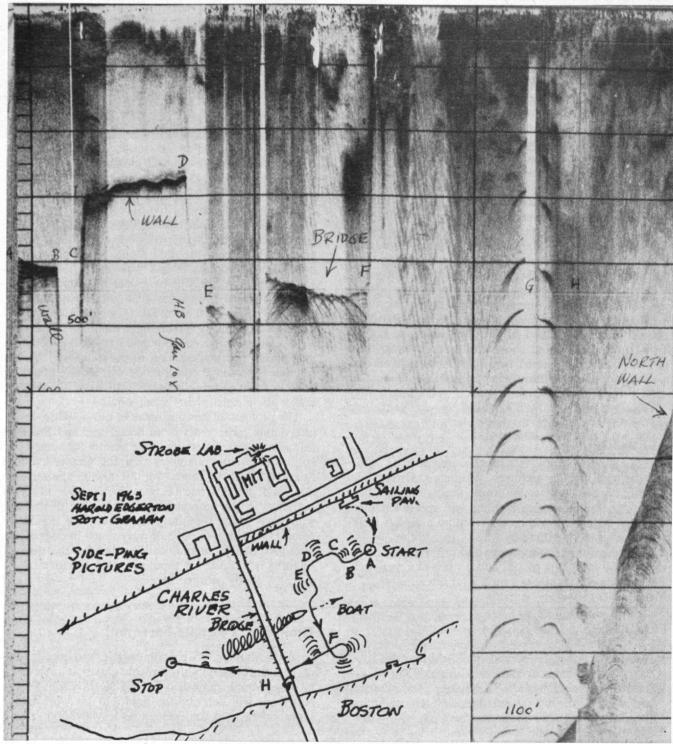
An Underwater View of the Institute

FROM a boat in the Charles River last summer, Professor Harold E. Edgerton, '27, and Scott D. Graham, '65, hung a "side-looking sonar pinger" and recorded how M.I.T. might look to a fish. The map shows their course, and letters on it provide a key to the echoes recorded from the wall and Harvard bridge when the pinger sent short powerful bursts of sound toward them.

Professor Edgerton also used the pinger in Buzzards Bay last summer to locate the Vineyard Lightship that sank in a 1944 storm. Members of the Fairhaven Whalers Skin Diving Club then brought up its compass for exhibition at the opening of the M.I.T. Alumni Center in New York.

At the right are Ed Curley, the pinger, and its maker. Professor Edgerton foresees many uses for it.







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Man's Use of Men

(Concluded from page 14)

We have recently seen this exemplified. Joy comes to the man of great responsibility only if he uses his power for worth-while ends, and if he is judged to do so by his peers, by those of his associates and friends who in his opinion are entitled to judge him. The creator of a genetic code does not reap his reward because he has his name in headlines, he secures it if he is respected and admired by his colleagues. The physician does not have his reward in a fine office and an affluent practice; he finds it in the smile of a child he has rescued from misery. I know there are many who disagree, who plunge blindly on without attempting to evaluate their goals, for every one who agrees with this summary. Men plunge wildly because they do not stop to think where they are going, or what they seek. The primal instincts, of self-preservation, of reproduction, are powerful and they motivate most of the population to the exclusion of all else. But I am not talking about the mass, I am speaking of those who have culture in the sense in which I have thus far used it. These, few in numbers, by their thoughts and acts, determining the course of all their fellows, do plan their lives, and they do evaluate the rewards of success. To them, above material success as valued by the world, stands something more sacred: the realization of labor well done and the acclaim of the friends they love. None of us alone can save the world or save democracy. All of us that have a life still to lead can live lives of true satisfaction and know the joy of living.

Still I am not done. There is a culture beyond the pragmatic culture we have thus far discussed. It is not utilitarian, it is often misrepresented, it is indefinable, and it is essential to a full life. It can never be taught, although it can be exemplified. Often a technique can be taught which will enhance its strength, but the technique is not a part of the culture itself. This higher culture is often mistaken for its artificial substitute: the password to the halls of the elect, the shibboleth which has held together a governing class, sometimes the only bulwark against chaos among an immature people. To know Greek history in detail is not culture, to enjoy a striking passage in Homer is. O. Henry wrote, "no man has lived who has not known poverty, love, and war." He left much out. No man has lived who has not stood entranced at the song of the thrush in a valley on a quiet evening, or who has not pondered at the honking of a flock of geese high over a frantic city in the still of night. No man has fully lived who has not rejoiced at the vigor of a spirited horse or the rage of a stormy sea. No man has lived who has not, in the quiet of his study, pondered on why he is on this earth, why he is conscious that he exists, and what is his duty and his mission.

There are indeed two kinds of culture. One can support the wisdom which will enable man to prosper and to live in peace with his fellows. The other can render life on this earth worth living.

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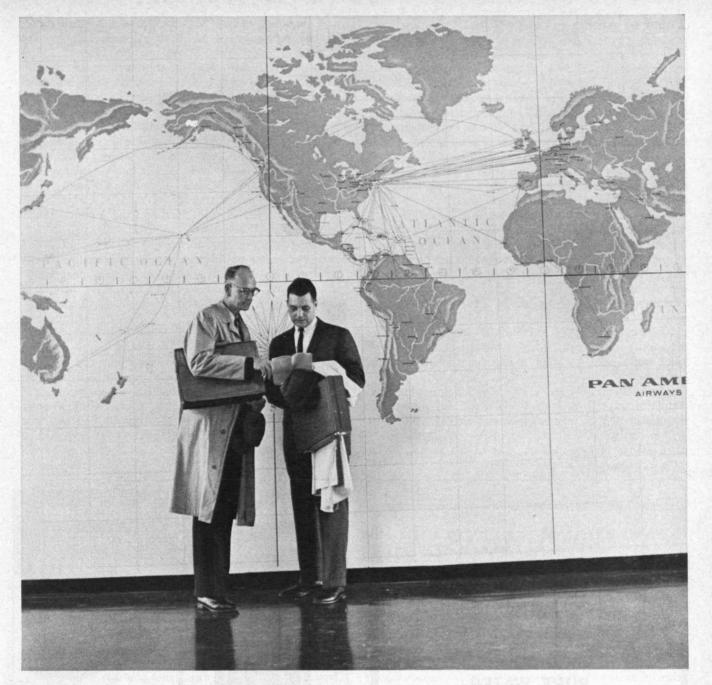
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Trend of Affairs

(Continued from page 24)

the people under him, judged their work, and fired those who dissatisfied him. Now personnel specialists have encroached on his freedom to choose the members of his crew, industrial engineers have curbed his authority as their judge, and unions have restrained his right to discharge them. Too often, the foreman is now just a glorified clerk unable to function as a leader. Is it any wonder, then, that everyone looks out for himself? And that management and labor often clash?

The Scanlon plan, Mr. Lesieur insisted, is really a philosophy rather than a plan, because its details may vary almost incredibly. Such a plan always provides for the payment of some kind of a bonus for increases in productivity, but the effective plans do more than that. They prevent employers from regarding employees as "those fellows," rather than as partners—and vice versa. It's easy to encourage suggestions from employees and easy to devise a way to share profits. But a true Scanlon plan is difficult to maintain, because it requires enthusiastic sharing of interests, ideas, problems, and profits. An essential ingredient is always plain talk.

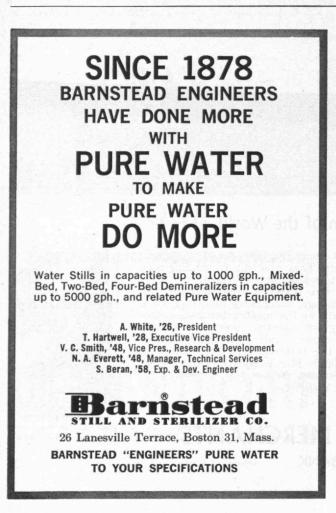
About 50 companies now have Scanlon plans. A couple of dozen others have had them and abandoned them. A faulty or inadequately understood accounting system can wreck a plan. So can neglect, tactlessness, or a change in management. But in plants where the pitfalls are avoided, everyone benefits.

Companies having Scanlon plans that were represented at this year's M.I.T. conference included the American Safety Table Company, Reading, Pa.; Amphenal-Borg Electronics Corporation, Borg Instruments Division, Delavan, Wis.; Anderson Brothers Manufacturing Company, Rockford, Ill.; Atwood Vacuum Company, Rockford, Ill.; Dennison Manufacturing Company, Paper Box Division, Marlboro, Mass.; Gray Knox Marble Company, Knoxville, Tenn.; LaPointe Machine Tool Company, Hudson, Mass.; Parker Pen Company, Janesville, Wis.; Parker Pen Company, Ltd., Toronto, Ontario; Pfaudler-Permutit Company, The Pfaudler Division, Rochester, N.Y.; U.S. Ceramic Tile Company, East Sparta, Ohio; and the Vermont Marble Company, Proctor, Vt.

Ten companies that do not have such a plan, a half dozen international unions, and five universities in addition to M.I.T., were also represented. Speakers included Dean George P. Shultz, '49, of the School of Business at the University of Chicago, and Dean Howard W. Johnson of the M.I.T. School of Industrial Management. To climax the program, a 12-man "screening committee" that reviews workers' suggestions and managements' actions, to keep the plan going for the Pfaudler-Permutit Company in Rochester, held an open meeting to demonstrate its methods.

The minutes of such meetings could be voluminous, and a person scanning them hastily might conclude that a good Scanlon plan is largely talk—which it is, which is why it works.

(Concluded on page 36)





New England Life's Eugene Carroll, CLU (Fordham '52), left, with Ben S, Stefanski, President and Board Chairman of Third Federal Savings and Loan Association of Cleveland.



Many men change careers to get ahead; this one didn't have to.

There was no question in Gene Carroll's mind that he had picked the right field for a career. Selling life insurance.

But, after a year and a half with an agency in Cleveland, his work had attracted the attention of several other companies who expressed interest in his services. This stimulated Gene to look around on his own initiative. He discovered New England Life's Clare Weber Agency and liked what he saw. Says Gene: "I've been a New England Life man since the day I entered that office."

Gene Carroll specializes in business and personal estate planning, which brings him into frequent top-level sessions with prominent men in the Cleveland area.

For example, just recently he met with Mr. Ben S. Stefanski, President and Board Chairman of the Third Federal, one of Cleveland's leading financial institutions. Together they worked out an incentive plan which provides supplemental pension benefits for the firm's executives as well as financial protection for their families.

Gene likes doing business with men like Mr. Stefanski. And he's proud of the caliber of the insurance he can offer them. "Our Company's contract is so outstanding" says Gene, "that it gives me confidence to be able to recommend New England Life to my clients."

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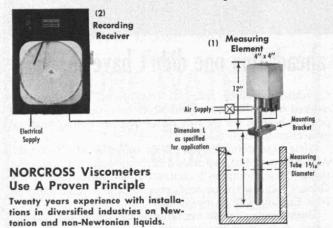
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Trend of Affairs

(Concluded from page 34)

The Alumni Council's Meeting

DR. HARRIET L. HARDY and Professor Harold E. Edgerton, '27, regaled the M.I.T. Alumni Council in October with accounts of their adventures. As assistant medical director in charge of the Occupational Medical Service, Dr. Hardy combats menaces that range from high-energy radiation to bats that carry rabies. As a photographer, Professor Edgerton now uses sound as well as light (see page 30), and he exhibited color pictures taken in Davy Jones's locker.

The Council's guests included Jacquelyn A. Mattfeld, Associate Dean of Student Affairs; Alexander J. Tigges, '23, vice-chairman of the M.I.T. Alumni Center in New York; and Russell L. Schweickart, '56, an astronaut training for the trip to the moon. F. Leroy Foster, '25, presided, and 178 persons attended this 368th meeting of the Council.

Course II's Faculty Hailed

AT THE M.I.T. Class of 1913's 50th reunion this year, 11 Course II men signed a testimonial declaring their esteem for their instructors had increased with the fleeting years. "You molded our minds and strengthened our character by the force of your personal integrity," their message to eight professors emeriti said. "We feel that what you did for us as individuals is identical with what you did towards building the greatness of the M.I.T."

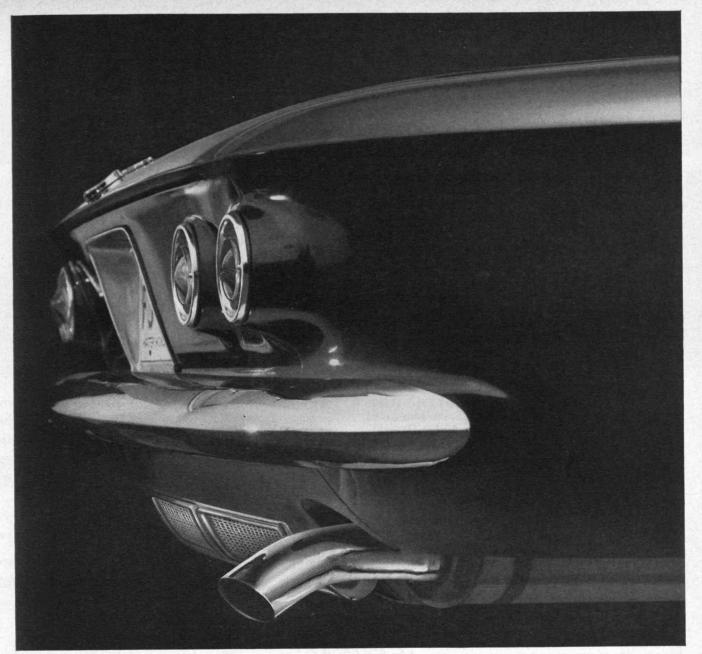
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An Alumna's Architectural Career

(Concluded from page 21)

under Professor Chandler had made great strides. A few trusting friends gave me commissions and by 1900 I had an office "downtown" with two men. They left me high and dry at the end of a year—one of the best things that ever happened to me. Somehow I got on while developing my interest in Colonial Architecture and my flair for remodeling houses.

In 1913, I took my draftsman, Eleanor Manning, '06 (now Mrs. Johnson O'Connor), into partnership and again went abroad with my sisters, having five months of pleasure unwitting of what was coming in 1914.

The firm of Lois L. Howe & Manning stuck it out through World War I. We built a cafeteria for the boys at Camp Devens and we built and worked in the Canteen on the Common. Small commissions led to large ones, and while we never grew fat and rich on small houses we generally had good jobs. We built the Art Center in Concord and one in Fitchburg. About 1926 we took our draftsman, Mary Almy, '20, also from M.I.T., into partnership.

Meanwhile, we felt that we owed something to the world outside. I became president of the Business Women's Club of Boston during World War I and of the M.I.T. Women's Association soon after.

While I was in this last office, Miss Susan Minns, '81, a very dear friend of Mrs. Richards and of the Association, appointed me as representative of M.I.T. on "The Naples Table." This was an organization founded by women scientists to maintain a laboratory table for the

study of biology in the aquarium at Naples, Italy, where various men's colleges had tables. Mrs. Ellen Swallow Richards, '73, had been one of the founders. During World War I the aquarium had to be closed but the organization kept on under the name of "The Society to Encourage Scientific Research Among Women"! The income was then used to give a prize or a "grant" to the writer of a scientific thesis.

I think it was in 1933 that we decided we were no longer needed, and this very interesting organization disbanded. Meanwhile, the great depression of the '30's had had a terrific effect upon architecture, and the firm of Howe, Manning & Almy decided to dissolve in 1937.

We were not unknown—in fact we were known as "The Firm." My old friend, Robert Swain Peabody, had put me into the American Institute of Architects in 1901, although the Boston Society of Architects would not let me in for many years. Naturally, when that happened at last, my partners entered both organizations with me.

I have been as a delegate to many conventions of the A.I.A. in Washington, Chicago, New York, etc., and in 1931 at the convention in San Antonio I was made a Fellow. Now I am emeritus of both organizations. I was a member of the Council of the Art Museum School for many years, and am still appointed annually "A Visitor to the School."

Since my retirement I have been for a time president of the Cambridge Plant Club, the oldest garden club in America, and am now a vice-president of the Cambridge Historical Society—and am gradually becoming the oldest inhabitant of my native town.

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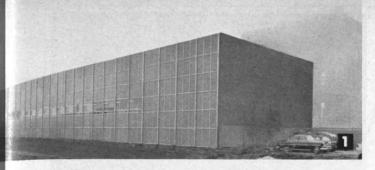


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HARD COARSE SAND	21'		16
STIFF BLUE CLAY. TRACE OF SAND	25'		14
HERONA.	.35'		7
MEDIUM BLUE CLAY			7
SOFT BLUE CLAY	43'		3
	90'		3

Franki Foundations at M.I.T.

Problem

One of the major problems encountered by Massachusetts Institute of Technology as it expands its facilities to meet the increasing demands of the Space Age, is the selection of safe and economical foundations. The campus is underlain, typically, by about 20 feet of fill and peaty silt, a crust of sand and gravel of varying thickness, and the deep deposit of soft blue clay common to much of the Boston area.

At the David Flett du Pont Athletic Center (No. 1) it was decided to support the building on the crust. Since the sand layer varied from 8 to 12 feet in thickness, piles were subject to the objection that they might "punch through" to the clay, and an excavated caisson foundation would have to bear the heavy and indeterminate cost of large-scale dewatering.

Solution

The Engineers decided to investigate the Franki system of displacement caissons or pressureinjected footings, because of Franki's unique ability to forge a footing with 140,000 ft.—lb. blows at a predetermined depth in the top of the sand layer, creating both an expanded base and a large zone of densified sand, thus improving the natural "mat" action of the crust. They found that Franki was prepared to guarantee satisfactory installation of the caissons at a fixed lump sum price, eliminating contingencies for extra length or dewatering.

The Engineers' final design involved 215 Franki caissons, in groups of 2 to 6 units, carrying individual loads of 65 to 80 tons. The controlling factor was of course the stress applied to the clay, and the number and spacing of the caissons at each column was so arranged as to keep that stress relatively constant, and within the limit of 1 ton per sq. ft. generally accepted for soft Boston Blue Clay.

A load test to double design load in the most critical area, where the sand stratum was only 8 feet thick, (net settlement 0.24") proved the safety of the design.

Results

The du Pont Athletic Center has now been in service for four years, and the design assumptions have been fully confirmed.

In the meantime the Institute and its various professional consultants, listed at left, have specified Franki guaranteed lump-sum-price foundations on the Burton-Conner Dining Hall (No. 2), the large Parking Facility at Main & Vassar Streets (No. 3), and on the four low-rise buildings of the Married Students Quarters complex (No. 4), now being dedicated. Unit loads on these structures ranged up to 120 tons per caisson.

Franki is proud to have been able to contribute to the growth of this dynamic educational institution.

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Literature series of job high-lights, as well as other descriptive literature, will be sent to you upon request to Franki Foundation Com-pany, 103 Park Ave., New York 17, New York.

How Coeducation Came About

(Concluded from page 18)

with his honeymoon and took his class of students along on their wedding trip to Nova Scotia. In 1876, having found an even greater lack of laboratory space for scientific study than Mrs. McCormick did in 1900, Mrs. Richards was the leader in establishing a Laboratory for Women, in which she served as an instructor until 1883. In that year, all courses were opened to women and all laboratories became coeducational.

According to Mrs. Richards' writings, women who chose new paths were under suspicion, and alumnae of Vassar at first had to meet in secret. By the time she was appointed an M.I.T. instructor in sanitary chemistry in 1884, she had unofficially made the welfare of its coeds her responsibility. Her services included seeking financial aid and opportunities for women to earn money, taking care of sick students, chaperoning parties, raising money and supervising construction of a gym, watching the papers for criticism, and finding positions for women after they were graduated. In 1902, two years after its founding, she became president of the M.I.T. Women's Association, organized "to promote greater fellowship among Institute women."

In that office, Mrs. Richards succeeded Emma Savage Rogers, wife of William Barton Rogers. Wives of M.I.T.'s presidents have long supported and encouraged Tech coeds, and Mrs. Karl Taylor Compton, Mrs. James R. Killian, Jr., and Mrs. Julius A. Stratton, are active now in the affairs of women students.



WOMEN STUDENTS now sponsor an annual all-Institute art exhibit. Robert W. Adams, '64, from Seattle, produced a totem pole for that show in the Main Lobby this year.

In 1953, Miss Ruth Bean, who is now at Brandeis, became assistant to the Dean of Students. This fall, Mrs. Jacquelyn A. Mattfeld, former associate dean at Radcliffe College and wife of the Institute's organist, was appointed associate dean of student affairs with special responsibility for women students.

There are 238 girls now among M.I.T.'s 6,860 students; 121 are undergraduates, and 117 are graduate students. Appropriately, when Mrs. McCormick spoke at the dedication of Stanley McCormick Hall, she called it "a dream come true."

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DECEMBER, 1963

Individuals Noteworthy

(Concluded from page 6)

New Posts

Named in the news of promotions, elections, and appointments recently were:

Edwin E. Aldrin, '17, as a Fellow, the American Society of Mechanical Engineers . . . Augustus B. Kinzel, '21, as a Director, Beckman Instruments, Inc. . . . Vincent E. Lysaght, '24, as Vice-president, American Chain and Cable Company:

Maurice T. Freeman, '25, as President, Loomis, Sayles & Company, Inc. . . . Ralph W. Stober, '27, as Treasurer, Cambridge Chamber of Commerce . . J. Robert Ferguson, Jr., '37, and Norman C. Michels, '41, respectively, as Vice-president—Design and Construction, and as Vice-president—Long Range Facility Planning, Engineering Division, United States Steel Company;

Franklin S. Atwater, '38, as Vicepresident—Operations, The Fafnir Bearing Company . . . Jack Rosenberg, '38, as Chief Engineer, Manufacturing Division, Wyle Laboratories . . . Harold A. Cheilek, '40, as Vice-president-Technical Director, Cornell Aeronautical Laboratory:

Harold V. Wallace, '40, as Vicepresident, Edgerton, Germeshausen & Grier, Inc. . . . Charles E. Wampler, '40, as Vice-president and Secretary, American Telephone and Telegraph Company . . . Clinton D. Cook, Jr., '42, as Dean of Faculties, University of Vermont;

Douglas L. Brooks, '43, as President, Travelers Research Center, Hartford . . . John H. Lutz, '43, as Vice-president—Finance & Administration, Scientific Design Company, Inc. . . . Carl Lindemann, Jr., '44, as Vice-president—Sports, National Broadcasting Company;

Richard J. McGarry, '44, as Vicepresident, Stone & Webster Engineering Corporation . . . Guy M. Pound, '44, and Paul A. Flinn, '52, respectively, as Director, Metals Research Laboratory, and as Associate Professor of Physics and Metallurgical Engineering, College of Engineering and Science, Carnegie Institute of Technology;

Edward J. Fradkin, '46, as Direc-

tor of Project Engineering, Scientific Design Company, Inc. . . . Richard H. Harris, '48, as Director of Corporate Development, Norton Company;

Francis M. Bator, '49, as Senior Economic Adviser, Agency for International Development . . . William S. Edgerly, '49, as Financial Vice-president, Cabot Corporation . . . Robert M. White, '49, as Chief, U.S. Weather Bureau;

James D. Kenney, '50, as Vice-president, Education and Research, American Production and Inventory Control Society . . . Jesse L. Shearer, '50, Rockwell Manufacturing Company Professor of Engineering, Department of Mechanical Engineering, Pennsylvania State University . . . Donald A. Young, '50, as Executive Vice-president, Chemical Fund, Inc.;

Harold Horowitz, '51, as Supervisory Architect, Architectural Staff, National Science Foundation . . . Joseph N. Sherrill, Jr., '51, as a Trustee, Trinity University, San Antonio . . . Otis C. Ferrell, Jr., '53, as General Manager, LFE Electronics Division, Laboratory for Electronics, Inc.

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M.I.T. and ME

(Concluded from page 26)

huge radar installations now operating in Alaska, which are intended to warn us of approaching enemy air-

We were all quite impressed with the whole thing when some genius stood up and asked what would happen if the enemy should attack from the other side, whereupon the father merely shrugged his shoul-

Who Has the Answers?

Now I ask you, do I have to solve all of their problems? I'm writing him now to suggest that he turn the thing halfway around as a precautionary measure. I can't see why he didn't think of that himself.

There's another dinner coming up in a month at the Bellevue where the subject will be "Outer Space Exploration." My husband said he will be away on business and to send our regrets; but I'm thinking of going alone. They're just liable to land that spacecraft on the moon and find they need me to get them back to earth again.

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New Books

M.I.T. Fellows in Africa **Discuss Development Problems**

THREE MEN who received master's degrees from M.I.T.'s School of Industrial Management last spring are working now for African governments. They are John R. Lyman, Jr., in Kenya, Robert W. Norris in Ghana, and Walter L. Ness, Jr., in Northern Nigeria. They are there thanks to the Fellows in Africa program established in 1960 and directed by Professor Carroll L. Wilson, '32.

Readers interested in this venture will find Managing Economic Development in Africa, published this year (M.I.T. Press, \$4.50), a rewarding book. It contains 22 papers, mostly by Alumni and members of the M.I.T. Faculty, that were given at a 1962 conference in Evianles-Bains, France, of the 1960, 1961, and 1962 fellows. The papers are based on the pioneers' experiences, and deal with the planning of economic development; the man power, technical and capital requirements; sources of aid, legal aspects, and the role of the United States.

"The M.I.T. Fellows in Africa was conceived," Professor Wilson explains in the introduction, "as a means for bringing well-trained, working-level assistance to African development institutions at a time of acute need. The aim has been to help a few African governments by recruiting to their service exceptionally able young Americans whose education is directly relevant to problems facing these governments. A corollary objective is to expose young Americans of exceptional promise to line operating experience within such African institutions in the belief that (a) such men and their wives will present a favorable image of young Americans today, (b) they will mature rapidly through responsible action in the actual business of economic or institutional planning and development, and (c) upon completing a two-year tour of duty in Africa they will form an unusual pool of talent for meeting the manifold needs of the United States in its role toward emerging Africa."

The reports on Africa's problems that were given at Evian-les-Bains, Professor Wilson notes, posed more questions than answers, but it is hoped that they will stimulate the search for answers.

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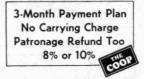
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Institute Yesteryears

As recalled by the late H. E. Lobdell, '17

25 Years Ago

IN HIS ANNUAL REPORT, President Karl T. Compton noted that in the autumn of 1938 there was special interest in the future of the School of Architecture because, after 22 years of "enforced separation following the transfer to Cambridge in 1916 of the other departments," the architects were housed in the new Rogers Building, at 77 Massachusetts Avenue. His thoughts were summarized by The Review as follows:

"Externally, the architectural profession has been subjected to the simultaneous stresses arising from greatly decreased activity during the depression, technological changes in building methods and materials, and new social requirements. There are indications that these stresses will make considerable changes in architectural practice and therefore also in architectural education. . . .

"The central theme of all good architecture is design, which provides for the efficient functioning of the building in a manner which is artistically pleasing and technically appropriate. Modern development of new building materials and methods, combined with social and economic pressures, is creating new demands on the architect and presenting new opportunities for him. Thus, while the central theme remains unchanged, the techniques of its application must continually adapt themselves to the evolution of the technical and social environment

"Now that the School of Architecture is again a closely integrated part of the Institute, it has new opportunities to meet the requirements of this situation."

▶ On December 31, 1938, Vannevar Bush, '16, since 1932 Vicepresident of the Institute, resigned to become President of the Carnegie Institution of Washington, and James R. Killian, Jr., '26, resigned his post as editor of The Review to become Executive Assistant



Frederick G. Fassett, Jr.

to President Compton. Dr. Killian was succeeded as editor by Professor *Frederick G. Fassett, Jr.*, of the Institute's Department of English and History.

50 Years Ago

ON DECEMBER 4, 1913, the first piles were driven for the New Technology in Cambridge. Among the figures connected with the project cited by The Review's editor, *I. W. Litchfield*, '85, were:

"The educational group will have 15,000,000 cubic feet of contents, and a floor area of 890,000 square feet. Its foundations will be built on 20,000 piles which, if laid end to end, would extend nearly 100 miles; 50,000 cubic yards of concrete will be used in the foundations and the reinforced concrete frame. This concrete will be made from 80,000 barrels of cement, 25,000 cubic yards of sand, and 50,000 cubic yards of gravel.

"The principal elevations will be faced with Bedford limestone blocks requiring approximately 200,000 cubic feet of stone, and the inside courts, the curtain and division walls, will be faced with some 15,000,000 light-face bricks."

75 Years Ago

IN HIS ANNUAL REPORT, President Francis Amasa Walker recalled that the year before he had "recited the action taken by the Legislature in appropriating \$100,000 for the Institute of Technology, conditioned upon the establishment of 20 free scholarships; and stated the reasons which, to my mind, made it undesirable to accept this grant thus conditioned.

"Under instructions from the Corporation, I presented to the appropriate committees of the General Court of Massachusetts the considerations which favored a more liberal policy on the part of the Commonwealth toward this institution....

"An appropriation of \$100,000 without conditions, in addition to the sum previously appropriated, was favorably reported by the committees of the House and Senate, and was passed by large majorities in both branches. . . .

"The relief to the finances of the Institute obtained through this free grant of \$100,000 has been very great. It has cleared the air around us. It has given fresh hope and courage to the Faculty of the school; and has strengthened the administration at a vital point."

The 14th Annual Meeting and Dinner of the Alumni Association was held at Young's Hotel, Boston, on December 28, 1888, 75 persons being present. The meeting was called to order by the President, Francis H. Williams, '73, and the record of the last meeting was read by Secretary Frederick W. Clark, '80, and approved. . . Mr. Clark's report showed the balance on hand to be \$61.24; and that the amount in the Alumni Fund was \$1,296.91.

100 Years Ago

PRESIDENT William Barton Rogers had particular cause for receiving congratulations on December 7, 1863, his 59th birthday, since in reporting to Governor John A. Andrew on the state of the Institute, he was able to advise him that construction had started on the new Building at 491 Boylston Street, Boston.*

^{*}This "new Building" was not completed for partial occupancy until February, 1866, and it was not until the following autumn that all Institute activities were removed from the premises in the Mercantile Building at 16 Summer Street. (The "new Building" was officially named for President Rogers after his death in 1881.)

A New Home For Students With Wives

The old barracks are gone and modern apartments have risen

THE HIGHEST M.I.T. building now in use is a 16-story apartment house for married students, into which 150 couples moved last fall. Near this tower are new gardentype buildings in which 60 more

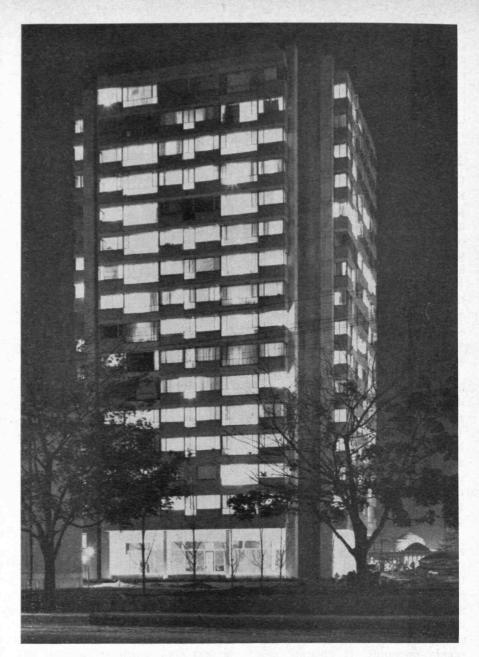
young couples are living.

The Institute first began providing housing for its married students 20 years ago, when World War II veterans could find no places to live near the school at prices they could afford. A hundred little units called Westgate were quickly erected, and 17 Navy barracks, which became known as Westgate West, were brought from Newport, R.I. Those wooden structures were home through the years to 3,261 families.

A special dispensation from the city of Cambridge was needed, however, to get them put up, and repeated waivers to the safety demands of the building code had to be obtained to keep them in use. The city decreed in 1958 that they should go, and all of them now have been cleared away.

The buildings that have replaced them are both safer and more attractive, and the apartments are modern and spacious. The Institute does not provide furnishings, but facilities available to the tenants include a well-baby clinic operated by the M.I.T. Infirmary, a children's play area in an inner courtyard, a small variety store, a coin-operated laundry, and storage areas.

The 15 living floors above the service floor of the tower contain 90 "efficiency" and 60 one-bedroom apartments, served by two highspeed elevators. The living-bedrooms of the "efficiencies" are about 14 by 18 feet. Living rooms in the others are about 16 by 15 and bedrooms about 10 by 14 feet. All of these apartments have large windows, baseboard radiation heating, tile baths with showers, and kitchen-



EVERYBODY seems to be home when you approach M.I.T. from the west in the evening. The main entrance and dome are at the right.

ettes equipped with electric stoves, refrigerators, ventilators, garbage arrangements, and ample cabinet space. Tower apartments are restricted to childless couples and parents of only one.

The two-bedroom apartments in the low-rise buildings all have cross ventilation. Each has a living room, a master bedroom, a smaller bedroom, and a kitchen-dining area, and each one has a small private balcony. These are for families with one or more children.

The buildings now completed and occupied are but half of those projected for the area. Another set similar to these is scheduled to be built later. They will be within a 10-minute walk of the main Institute buildings, and on the same side of Massachusetts Avenue as the Coop, Chapel, and playing fields. Harvard, too, is putting up housing for married students now, but its first buildings will not be ready for occupancy until next year.

The M.I.T. buildings were financed by a federal government loan and are self-amortizing. Residence in them is limited to regular undergraduate and graduate married students. Most of the present occupants are graduate students.

Hugh Stubbins and Associates, Inc., of Cambridge, were the architects, and the Wexler Construction Company, Inc., the contractor.

Club News

Southwest Florida Group Organizes Alumni Club

An organizational meeting for the new M.I.T. Club of Southwest Florida was held on September 9 at the home of Bernard E. Groenewold, '25, of Sarasota. The club's area includes Manatee, Hardee, Highlands, Sarasota, DeSota, Charlotte, and Lee Counties.

Newly elected officers include: Lowell L. Holmes, '23, President; Peter R. Pettler, '54, Vice-president; David A. Eberly, '49, Secretary-Treasurer; and Executive Committee members, Bernard E. Groenewold, '25, William R. Grunwell, '28, and Howard E. Hartman, '46, who will serve for three, two, and one year, respectively.

The senior charter member is David H. Hayden, '99, and the youngest, Stuart Solin, '63. Others in addition to the officers are: Hardy M. Cook, '09, James A. Green, '46, Clyde K. Hall, '20, Emory L. '16, Vincent Panettiere, George M. Patch, '25, Samuel E. Rogers, '13.—David A. Eberly, '49, Secretary-Treasurer, 2315 Goldenrod Street, Sarasota, Fla.

St. Louis Club Members Tour McDonnell Aircraft

The M.I.T. Club of St. Louis held its first meeting of the year on October 3 at the new Mayfair-Lennox Inn in St. Louis County. Eighty members, wives, and guests attended.

After cocktails and a roast prime rib dinner, the group toured the McDonnell Aircraft Corporation plant facility-starting in the Phantom II Jet Fighter production area, where the group saw all stages of production. A brief visit was made to the Mercury mock-up room, where a detailed model of the Mercury capsule was inspected. The highlight, however, was the Gemini mock-up area, where the group heard a lecture on the various components and functions of the Gemini two-man spacecraft and examined the craft itself. It was possible to view the inside of the space capsule and its intricate mechanisms, as well as the support systems, escape mechanisms, landing equipment, and retrograde rockets.—Paul A. Lux, '52, Secretary, 15 Enfield, St. Louis 32, Mo.

Boston Stein Club Considers Naval Problems

The Boston Stein Club held its opening meeting on October 24 at the Faculty Club. Commander R. B. Cavanaugh of the Institute of Naval Studies discussed the activities of this institute, its relation to M.I.T., and some of the problems of anti-submarine warfare. Myron Norman, '39, provided the group with wine cocktails before dinner.-Mel A. Barkan, '55, Secretary, 10 Emerson Place, Boston, Mass.

Future M.I.T. Club Meetings

The following are the dates and principal speakers as announced at the time of printing for M.I.T. club meetings during December, 1963, and January, 1964. For more details consult the club secretary in your city.

December 16-M.I.T. Alumni Center of New York-

Evening Program: The World We Live In

Executive Secretary: James N. Phinney, United Engineering Center, 345 East 47th Street, New York

December 3—Tulsa—Professor William H. Dennen, '42

Secretary: Bruce Kirton, '44, Phillips Petroleum Company, Tulsa

December 12—Boston—Franklyn W. Phillips, '41, NASA Regional Director Secretary: John M. Reed, '51, Room 831, 73 Tremont Street, Boston

December 19—Philadelphia—Dean Howard W. Johnson

Secretary: John B. Murdock, '41, Perlite Corporation, Landsdowne, Pa.

December 27—Washington, D. C.—Program to be Announced

Secretary: Richard R. Martin, '45, Decision System, Inc., Kensington, Md.

January 9-Boston-Professor Patrick D. Wall

January 14-M.I.T. Alumni Center of New York-

Professor Lincoln P. Bloomfield

January 21—Philadelphia—President Julius A. Stratton, '23

January 28—Washington, D. C.—Program to be Announced

Secretary: Richard R. Martin, '45, Decision Systems, Inc., Kensington, Md.

Additions to this column of meeting announcements are welcome. Copy is due December 20 for the February issue of The Technology Review and should list your club meetings for February and March. Send your copy to: Alumni Secretary, M.I.T. Alumni Association, Room 1-280, Cambridge 39, Mass.

Western Pennsylvanians **Elect Club Officers**

The M.I.T. Club of Western Pennsylvania recently elected Ernest U. Buckman, 2d, '46, to its presidency. Other 1963-1964 officers are: James B. Allen, '36, Vicepresident; Eli I. Goodman, '50, Secretary; and Hugo C. Johnson, Jr., '46, Treasurer.

The club officers and boards of governors met on September 3 at the Oliver Tyrone Corporation to plan the season's meetings, which will include: November 25, University Club, with D. Hugh Darden, Director of the M.I.T. Educational Council, as speaker; March 2, University Club, the annual Guidance Counsellor's Night, with Professor Roland B. Greeley, M.I.T. Director of Admissions, as speaker; and May 4, a tour of the research and development facility at the Gulf Research Laboratories. Event chairmen are: Jerome P. Hahn, '47, Publicity; Henry Avery, '41, Scholarship; Edward F. Murphy, Jr., '41, Membership and Attendance; and James L. Taylor, Jr., '02, and Benjamin W. Steverman, '31, Audit.

Alumni who have recently arrived in the Pittsburgh area may obtain further club information by calling Edward F. Murphy at 922-5700. All Alumni and their guests are invited to attend the meetings.-Eli I. Goodman, '50, Secretary, Westinghouse Electric Corp., Astronuclear Laboratory, Box 10864, Pittsburgh 36, Pa.

Boston Area Clubs Ponder Transportation

The M.I.T. Club of Boston and the Route 128 Club met jointly on October 14 at the M.I.T. Faculty Club to hear Professor John T. Howard, '35, Head of the Department of City Planning, and Joseph Maloney of the Massachusetts Transportation Authority discuss "Transportation and Politics."

Jerrold R. Zacharias, Professor of Physics, was to explain "The New M.I.T. Curricula and Why" at a November 14 luncheon at the Union Oyster House. Other events scheduled for the club year include: December 12, noon, Union Oyster House, Franklyn Phillips, '41, of New York on NASA; January 9, noon, Union Oyster House, Patrick D. Wall, Professor of Physiology, on neurological research; February 13, noon, Union Oyster House, the Metropolitan District Commission on plans, problems, and politics; March 12, noon meeting, Union Oyster House; April 9, evening, Science Museum, wives invited, Attorney General Edward W. Brooke (tentative); and May 14, noon, Union Oyster House, Professor Robert R. Shrock, Head of the Department of Geology, on the earth sciences.-George Macomber, '48, President, 24 Monument Street, Concord; John M. Reed, '51, Secretary-Treasurer, 166 Tappan Street, Brookline 46, Mass.

Long Island Alumni Welcome Freshmen

The M.I.T. Alumni of Long Island held their second annual "Freshman Get-together" on September 5. Ninety-five freshmen, their parents, and club members were guests of the Republic Aviation Corporation for a tour and reception at its new Paul Moore Research Center at Farmingdale.

Following the reception, a round-table discussion of current Institute activities, sports, student government, fraternities, and dormiteries was led by several undergraduates. An M.I.T. film, "To Greater Strength," was shown. The meeting provided informal social contacts between many parents now with similar problems (M.I.T. students in the family!). The success of this type of meeting was indicated by the eager participation of last year's freshmen who had attended a similar function in 1962. The meeting was originated and directed by Robert I. Kraus, '42, and Stephen E. Eppner, '45.

Other club plans for this year include: October 11, Beer Party, with guest speaker, E. Eugene Larrabee, '48, Assistant Professor of Aeronautics and Astronautics; December 6, Harmon-Kardon Hi-Fi, tour and dinner; February 7, Monte-Carlo Night, dinner-dance; April 3, House Design Forum, with Simmons and Radcliffe alumnae; and May 8, annual meeting.—Duane Yorke, '53, President, 112 Clover Drive, Massapequa Park, N.Y.; Douglas A. Tooley, '28, Secretary, 11 Cider Mill Lane, Huntington, N.Y.

Delaware Valley Alumni Meet in "Aquarama"

The new "Aquarama" in Philadelphia was chosen as the setting for the October 28 dinner meeting of the M.I.T. Club of Delaware Valley, with Professor Columbus O' D. Iselin, internationally known expert on oceanography, as the speaker. The main hall is surrounded by fish tanks.

On December 19 the Club will hold a joint meeting with ASME and hear Dean Howard Johnson of the School of Industrial Management. President Julius A. Stratton, '23, will speak on January 21 at the winter dinner meeting at Philadelphia's Union League.—John B. Murdock, '41, Secretary, 15 Runnemede Avenue, Lansdowne, Pa.

Indiana Association Plans Club Year Activities

The Executive Committee of the Indiana Association of the M.I.T. met on September 27 to plan the year's activities. Professor Robert R. Shrock, Head of the Department of Geology, was to speak at a November 12 meeting at the Manger Motel. A picnic "pitch-in" is planned for June 7, 1964, at Morse Reservoir.

Those attending were: John H. Babbitt, '17, Thomas G. Harvey, '28, Marshall D. McCuen, '40, Thomas C. Dorste, '47, and Eugene J. Popma, '58. Frank Travers, '23, was elected chairman of the Committee.—Thomas G. Harvey, '28, Secretary-Treasurer, 5685 North Delaware Street, Indianapolis 20, Ind.



GEORGE ELI WHITNEY, '79, of Manchester, N.H., is now 101 and M.I.T.'s oldest Alumnus. He is known throughout New England as the "Steam Man" because of the steam-powered "Locomobile" he built in days when police insisted that a car be preceded by a man on foot waving a red flag. Mr. Whitney invented many things, including a bicycle hub brake, an automatic coal stoker, and a hay compressor. He is pictured above with a side-wheel for a steamboat that he built.

Photo by Chris Goudas, Manchester Union Leader

Western Florida Alumni Hear About Fund

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The secretary had a very pleasant visit with George Harkness at his home in Dorchester a week before he returned to Orlando, Fla., for the winter. When we were freshmen he sailed with his father, who was captain of a ship. He re-entered Tech as a sophomore with '96 and after graduation was with contractors on bridge and dock building before he became state engineer on bridges. He enjoyed smoking a pipe, and the secretary enjoyed a "Belinda" George gave him as we reminisced and made a date for next year. . . . Walter H. James, Professor Emeritus of Mechanical Engineering, died September 22. He lived in Waltham where he served on the school committee until a dozen years ago when he moved into a smaller house in Topsfield, near his daughter, Mrs. B. W. English. His son, Arthur S., lives in St. Petersburg, Fla. Walter built a shop and equipped it with wood-working tools and enjoyed making stools, cabinets and chairs. Even a fire that damaged the shop building and destroyed most of its contents two years ago did not deter him from his hobby except for the time required to rebuild. . . . Mrs. Ada James wrote a note of appreciation for the letter of sympathy from the class.-James M. Driscoll, Secretary, 129 Walnut Street, Brookline, Mass.

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Long Island Alumni Welcome Freshmen

The M.I.T. Alumni of Long Island held their second annual "Freshman Get-together" on September 5. Ninety-five freshmen, their parents, and club members were guests of the Republic Aviation Corporation for a tour and reception at its new Paul Moore Research Center at Farmingdale.

Following the reception, a round-table discussion of current Institute activities, sports, student government, fraternities, and dormiteries was led by several undergraduates. An M.I.T. film, "To Greater Strength," was shown. The meeting provided informal social contacts between many parents now with similar problems (M.I.T. students in the family!). The success of this type of meeting was indicated by the eager participation of last year's freshmen who had attended a similar function in 1962. The meeting was originated and directed by Robert I. Kraus, '42, and Stephen E. Eppner, '45.

Other club plans for this year include: October 11, Beer Party, with guest speaker, E. Eugene Larrabee, '48, Assistant Professor of Aeronautics and Astronautics; December 6, Harmon-Kardon Hi-Fi, tour and dinner; February 7, Monte-Carlo Night, dinner-dance; April 3, House Design Forum, with Simmons and Radcliffe alumnae; and May 8, annual meeting.—Duane Yorke, '53, President, 112 Clover Drive, Massapequa Park, N.Y.; Douglas A. Tooley, '28, Secretary, 11 Cider Mill Lane, Huntington, N.Y.

Delaware Valley Alumni Meet in "Aquarama"

The new "Aquarama" in Philadelphia was chosen as the setting for the October 28 dinner meeting of the M.I.T. Club of Delaware Valley, with Professor Columbus O' D. Iselin, internationally known expert on oceanography, as the speaker. The main hall is surrounded by fish tanks.

On December 19 the Club will hold a joint meeting with ASME and hear Dean Howard Johnson of the School of Industrial Management. President Julius A. Stratton, '23, will speak on January 21 at the winter dinner meeting at Philadelphia's Union League.—John B. Murdock, '41, Secretary, 15 Runnemede Avenue, Lansdowne, Pa.

Indiana Association Plans Club Year Activities

The Executive Committee of the Indiana Association of the M.I.T. met on September 27 to plan the year's activities. Professor Robert R. Shrock, Head of the Department of Geology, was to speak at a November 12 meeting at the Manger Motel. A picnic "pitch-in" is planned for June 7, 1964, at Morse Reservoir.

Those attending were: John H. Babbitt, '17, Thomas G. Harvey, '28, Marshall D. McCuen, '40, Thomas C. Dorste, '47, and Eugene J. Popma, '58. Frank Travers, '23, was elected chairman of the Committee.—Thomas G. Harvey, '28, Secretary-Treasurer, 5685 North Delaware Street, Indianapolis 20, Ind.



GEORGE ELI WHITNEY, '79, of Manchester, N.H., is now 101 and M.I.T.'s oldest Alumnus. He is known throughout New England as the "Steam Man" because of the steam-powered "Locomobile" he built in days when police insisted that a car be preceded by a man on foot waving a red flag. Mr. Whitney invented many things, including a bicycle hub brake, an automatic coal stoker, and a hay compressor. He is pictured above with a side-wheel for a steamboat that he built.

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Class letters on this subject appeared in 1951 and 1955. George Cottle, Ed Chapin and Dan Edgerly were in Athens these years and visited the Agora with descriptions and clarifications by Gorham.—Frederic A. Jones, Secretary, 286 Chestnut Hill Avenue, Brighton, Mass.; Edward S. Chapin, President and Class Agent, 271 Dartmouth Street, Boston, Mass.

'01

All I have to offer as news from classmates is a reply that came last May from Archibald Klieves, IV, from Wheeling, W. Va.: "I have delayed answering your class notes of February, hoping that I would be able to attend the reunion on June 10. I now find that it will be desirable for me to remain in Wheeling at that time. After 20 years as a commissioner on the Wheeling Housing Authority, I refused to be reappointed. However, it appears that I cannot keep out of building activity. Last fall I started to enclose a porch on my daughter's residence (which is my home). This seeming simple problem called for much experience for solution. . . . I will be 88 on August 19, so feel pretty happy to get around as I I have no more material for notes so, if you want to hear from your classmates, you must send me some news .-Theodore H. Taft, Secretary, Box 124, Jaffrey, N.H.

'03

Many of you received a copy of the picture taken at the reunion banquet; if any member has not received one, write to the secretary, and I will gladly forward one to you. . . . We are including in the notes this month the "Reminiscenses of the M.I.T. 1903 Class" which was the class address of Professor Emeritus Andrey Potter at the reunion:

"At our graduation exercises on June 3, 1903, 191 S.B. and 8 S.M. degrees were awarded. Of those awarded the advanced degree, four had co-operated on their thesis, "A Design for an Establishment of an Horticultural Society." Other graduate theses had the following titles: A Design for a Student Settlement for the Institute of Technology," "Induction of Steel Rails," and "The Study of Types of Bacteria Present in Sewage and Their Fate during Storage." The theses for the S.B. degrees were much more impressive and included tests of concrete, ore, electrical machinery, pumping engines, power plants, steam motor carriages, steamboats, vapor engines, the hardening of steel, designs for coaling barges, electrical power transmission; a great variety of chemical analyses, designs of structures, waste disposal plants, copper refining, and similar subjects which would be very creditable for Ph.D. degrees today. . . Out of the 191 of our classmates who received their S.B. degrees in 1903, 32 attended our 50th Reunion.

'As you visit the present physical plant of our alma mater, you will find facilities much superior to those of Rogers, Walker, Engineering A and B and the Henry L. Pierce Buildings on Trinity Place, or even the Augustus Lowell Electrical Laboratory at the extension of Clarendon Street. The construction of the latter building was made possible through the gift of \$50,000 by the Lowell family and of \$10,000 from another benefactor. . . . However, well designed buildings, expensive equipment, winning athletic teams or even eminent top administrators, may turn out poor products, unless it is recognized that the key figure in any educational process is the teacher and that the end product of any college or university is largely a reflection of its teachers. The superior teacher not only equips his students with tools of knowledge but develops in them the ability to think clearly, act courageously, appreciate excellence, and fit into their present and future environments.

"As we look backward to our years as students at M.I.T., and reflect on the personalities of the professors with whom we came in contact, we have reason to be most appreciative of our alma mater. Those who stand foremost in my mind are 'Papa' Runkle, Eddie Miller, Harry Clifford, Robert H. and Ellen Swallow Richards, Davis R. Dewey, Webster Wells, Harry Tyler, Getty Lanza, Charlie Cross, George Swain, Arlo Bates, Bill Sedgewick, D. F. Allen, Linus Faunce, Heinrich Hoffman, Desire Despradelle, 'Tommy' Pope, Phelan, Whitney, Arthur Noyes, the Fuller and Johnson team, the Schwamb and Merrill team, the Bailey and Woods team, and Presidents Henry S. Pritchett, General Walker, and 'Pioneers'

Rogers and Crafts.

Those of us in Course II and VI were particularly attached to Eddie Miller and Harry Clifford. Eddie Miller loved his students even more than the subjects taught; he so well dramatized the evils of boiler explosions, that not one of his many hundreds of students was ever responsible for boiler hazards. . . . Harry Clifford, by advising us to 'let pi equal three' earned the story printed in the 1903 Technique about his experiments with pie: 'When Harry Clifford, years ago, was but a child of three, his scientific instincts then were plain as plain can be. One morning running in from play, he eagerly did cry the while his grand-mama he sought, "I want some pi." "Yes, child" she said, "Take just one piece." Off toddled Harry to the shelf and ate one piece with glee. Then with a wistful glance remarked, "Let's let pi equal three." As time went on, there came an end, to Harry's happiness. The pi disintegrating caused deep feelings of distress. His mother cried "Is Harry sick?"

He made a feeble sign. They gave him Johnson's liniment, because it was anodine. He lived, but it was a close escape. He would not be alive today, had he evaluated pie as three.' Harry Clifford also well deserved at the Tech Show, the special song prepared and delivered in his honor, the chorus of which you no doubt remember: 'Oh, Harry Clifford. His curlicues in Theoret were great. His third harmonics we used as tonics, although his curves we could not integrate.'

"Course I had two unusual characters Allen and Swain. If I was correctly informed, it was C. Frank Allen who said to his class: 'Now between ourselves. gentlemen, I should quote a little saying I heard recently. There are three kinds of lies-plain lies, damn lies and statistics.' Swain impressed us greatly as a professional engineer and as a public speaker, particularly his talk on how to study. . . Cecil H. Peabody, whose main subject, thermodynamics was called 'Peabo's Stunt' and 'Thermo-damn nonsense,' suffered by comparison with Eddie Miller as a teacher and friend of students, but he impressed us greatly by his many textbooks on steam boilers, valve gears, and steam tables. Once his students took him at his word and flunked, when he told his class: 'You need not bring anything to the examination.

"As we look back more than 60 years, we realize now, that while the information we received in our classes has long since become obsolete, we are most fortunate to have had as teachers the types of individuals I have mentioned, who gave so much of themselves to us and who seem to have instilled in their students a high regard for truth; an interest in knowledge and a sensitivity for human values. It is most gratifying that our alma mater is now recognized as a leader the world over, in graduate enrollments; in basic and applied research and in outstanding scientific publications. Let us hope, however, that M.I.T. will always remember that teaching of undergraduates must not be co-ordinated with graduate study, research and publications, or even public service during times of peace. Its main function is to attract, develop, encourage and reward the type of teachers we had as undergraduates, who had a keen interest in us as people and who were striving to instill in us not only scientific and other scholarly competence, but also an understanding of the importance of good citizenship, strong character and sensitivity to human relationships.'

Our Happy Birthday congratulations go to Horace S. Baker, I, who was 85 on July 1, and Mrs. Ferrucio Vitale, VII, who reached her 80th milestone on September 28.—John J. A. Nolan, Secretary, 13 Linden Avenue, Somerville, Mass.; Augustus H. Eustis, Treasurer, 131 State Street, Boston, Mass.

'04

The Boston Herald of October 8 pictured our classmate, Katherine Dexter McCormick, presenting the newly con-

structed McCormick Hall to M.I.T. This is the \$2 million woman's dormitory made possible by Mrs. McCormick's generosity. It is situated on Memorial Drive and is a much needed facility for student life. ... A card from Harry and Glendora Rollins announced an extended trip to the Orient. They left by air on October 4 from Japan and planned to visit Hong Kong, Taiwan, Bangkok, Singapore, Australia, New Zealand, Fiji, Tahiti and Hawaii. They expect to complete the trip on December 16. We hope they have a delightful time. . . . We have had calls from two visiting classmates recently. Ralph Havden and wife came from California to visit their son and family in Sharon, Mass. We had a nice visit with Ralph at the M.I.T. Faculty club. He is looking hale and hearty. The second visitor was George Kaiser, who, with his wife and daughter, was making one of his periodic trips to inspect Boston antiques. We had lunch with George and enjoyed a visit with him. . . . Tammy Rockwood is in circulation again after a hospital confinement. . . . That about covers all the class news. Nothing definite has yet been decided regarding our 60th Reunion. If any of you have suggestions please send them in soon.—Carle R. Hayward, Secretary, Room 35-304, M.I.T. Cambridge, Mass.; Eugene H. Russell, Jr., Treasurer, 82 Devonshire Street, Boston,

'05

As a result of a rather belated welcome into the Society of Octogenarians, I have recently had letters from some old duffers from whom I had previously been unable to extract news. Carleton Atwood, VI, for instance, sent me an invitation to his wedding to Anne Kirby Steele at the St. George's Episcopal Church, Maynard, Mass., on October 20, 1963. Thus he becomes our latest bridegroom. Carl's new address is Hill Road, Boxboro, R.F.D., West Acton, Mass. I am sure all '05 men will congratulate the newlyweds and wish them health and happiness. . . . Elizabeth Babcock writes that Court, while on Cape Cod during August, had an attack of the virus, fainted, fell and sustained a broken ankle and ribs. This landed him in the Massachusetts General Hospital, where he was quite sick at first, but his ribs and ankle mended, and he recuperated gradually.

Ted Steel, VI, was unable to answer personally because of poor eyesight, but Edith writes that Ted is otherwise in fine condition. "He still gets his greatest pleasure from listening to the 'talking books.' We had a fine celebration of his 80th birthday in July when all the family and some friends gathered at our son's to do him honor." I am sure Ted would like awfully well to hear from his classmates. The address is Edward T. Steel, 38 South Sixth Avenue, Apartment 28, La-Grange, Ill. . . . Myron Helpern, V, writes that he got a great kick out of his 50th anniversary and his 80th birthday. Having seen Myron and Rose on Alumni Day, I know that they have the physical "kick" to get a lot out of life. . . . Andy Fisher, X, had his 80th in September, and because I forgot it, he felt chagrined that not a single class officer of '05 sent him congratulations. What can you do in a case like this except congratulate him on his good health, his much-better half and his wonderful family? "After all," he says, "anybody else in the class with two grandaughters in Radcliffe?" Andy is somehow trying to get credit for the quintuplets born to Andrew Fischer (and Mrs. Fischer) of Aberdeen, S.D. Figure that out.

Roy and Grace Allen have sold their house in Banning, Calif., and moved to Phoenix, Ariz. It seems that Hal Robbins had written them about the advantages in a "retirement home," with the result that they visited Hal, were thrilled with the spot and the idea. They moved in June to Orangewood Apt. 301-7-8, 7550 North Sixteenth Street, Phoenix, where Roy states, they have been happy ever since. . . . Passing through Gilmanton Iron Works, N.H., during the summer, I remembered a name on our class list-Herbert W. Olmsted. I stopped out of curiosity, found him, and had a good talk with him. He said: "I went up Rogers steps in September, 1901, registered, looked around, went down some winding stairs and out the back door-period.' In other words it took him just a few minutes to find out he did not belong in a technical environment. He challenged me to find an M.I.T. man who would remember him. Which reminds me that while on a banana ship in the Pacific Ocean below the equator last March, the second mate, a native Israeli, a graduate of a technical college in Haifa, asked me: "Do you know where Peyton Place is?" He had read the book and wanted to know "how come" in a nice little country town. I could only say, "Nothing like that happens in the little country town I live in." Oh, no! . . . Gib Tower and Elizabeth were to make a southern trip about this time to see their two children and families and mentioned that Elizabeth's mother celebrated her 101st birthday recently, Good old New England stock!

It is my sad duty to announce the death of Ralph D. Emerson, IV, at his residence in West Roxbury on September 28, 1963. Anyone who attended M.I.T. during 1901-05 knew Ralph for his athletic ability, plus many other things. The Boston Herald of September 29 summarized his life, and I quote: "Ralph D. Emerson, 80, of 10 Houston Street, West Roxbury, an architect for 55 years, died vesterday. He was a native of Worcester and was graduated in 1905 from Massachusetts Institute of Technology. He was associated for about 40 years with the firm of Codman and Despradelle and later with the National Docks of East Boston. Mr. Emerson was one of the designers of the Peter Bent Brigham Hospital, Berkeley Building, Schrafft's, Inc. candy factory, Lawrence National Bank and Lawrence High School. He was a member of Emmanuel Church of West Roxbury for 49 years, and a vestryman and president of its men's club. He was a member of the Highland Club of West Roxbury for about 40 years. He leaves a son, Thayer M. Emerson of West Roxbury, an electrical engineer; and two grandchildren." Ralph attended our 50th Reunion. He had been very deaf for several years and his daughter-in-law accompanied him. I am quoting from a letter which she wrote following a letter I had written to express the sympathy of the class: "Yes, I am the daughter-in-law who brought Grandpa to the 50th Reunion; and we had spoken of it so many times since. It is true that his hearing loss kept him from many more of the gatherings. You may be interested to know that Grandpa was illseriously-only for about five weeks before he died, and had been at work every day up until that time. He was truly a remarkable man, and so many have said

Deceased

DAVID S. HAWKINS, '92 WALTER H. JAMES, '96, Sept. 22* ARTHUR W. HUSE, '98, June 30 GORHAM P. STEVENS, '98, March 15* WILLIAM A. WILDER, '98, May 19* MRS. L. B. LAWRENCE, '01, June 27 MABEL T. WELLMAN, '02, Sept. 13 ROBERT FAULKNER, '04, July 26 RALPH D. EMERSON, '05, Sept. 28* HARRY R. GABRIEL, '05, Sept. 7 HERBERT J. BALL, '06, Sept. 28* HERBERT S. PHILBRICK, '06, June 21* ANDREW B. SHERMAN, '06, Sept. 9* HAROLD E. YOUNG, '06, June 14* JOHN G. BARRY, '07, Sept. 28 STANLEY E. BATES, '11, Sept. 19 DANA H. GILLINGHAM, '13, March 26* LEO A. HARTNETT, '13, May 29* C. KIRK HILLMAN, '13, March 30* JOHN L. KERR, '13, April 20* ANDREW VOGEL, '13, Aug. 20* WILLIAM F. WALLIS, '13, June 23* GEORGE H. LYNOTT, '15 DONALD O. FRIEND, '17, Sept. 29* AINSLEY C. McCURDY, '17* DONALD S. CLARK, '18, June 6 Jose Pasos-Diaz, '18, June 20*

JACKSON G. FLECKENSTEIN, '19, Oct. 9 WILLIAM N. BARRON, '20, Sept. 20 HENRY R. MURPHY, '20, Sept. 1 MARK L. IRELAND, '21, June 26 EVERETT R. TUCKER, '21 WILLIAM F. DRISCOLL, '22* WILLIAM T. DUNLAP, JR., '22* EDWARD F. ENGLISH, '22, July 23 WILLIAM C. GILMAN, '22* CARL W. HARRIS, '22, Oct., 1962* JOHN E. SALLAWAY, '22, Sept. 17 FRANCIS P. SQUIBB, '23, Sept. GEORGE L. PARKER, Jr., '25, April 18* JAMES W. DUNHAM, '26, Sept. 8* W. Russell Greenwood, '26, Aug. 3 ALLEN N. CRAWFORD, '27, March 29* CAROL E. OSGOOD, '27, Sept. 1* Ivor B. Yassin, '27, Oct. 14 CHARLES E. HUGHES, '30, Sept. 7 WHITNEY WEINRICH, '30, June 27* KENNETH R. MACKENZIE, '38, Aug. 4 JOHN E. ARNOLD, '40, Sept. 27* FRANK J. STORM, JR., '41* PANOS M. KYRTSIS, '56, Sept. 12 MERWIN SACAROB, '56, Feb. 5 ANTHONY M. NUTILE, '62, Oct. 28, 1962 *Further information in Class News.

that his type of gentleman is now almost extinct. We shall miss him for he was the very cornerstone of our home. However, he has left us many fond memories and a rich inheritance through his example of fine character, day in and day out, year in and year out."—Fred W. Goldthwait, Secretary and Treasurer, Box 32, Center Sandwich, N. H.; Gilbert S. Tower, Assistant Secretary and Treasurer, 35 North Main Street, Cohasset, Mass.

'06

Now we jump from spring and summer doings and letters into fall and winter and Christmas. This fall has been superb in New England with foliage more colorful and more plentiful than I can remember. Whatever winter brings we will take and like, while some of you will be swimming in Florida. . . . The November notes reported five deaths and I have more information about the men named. . . . Leroy Porter Henderson, II, died June 13 in Beverly, Mass., where he had been a lifelong resident. Until 1955, the North Beverly address was the only entry on my file card and in the Alumni Register. An article in the Boston Traveler stated that he was employed by the old C.A.A. until 1938, when he began service with the state. Henderson played a key role in airfield development while an official with W.P.A., and was instrumental in the birth of Bedford Air Field. He retired three years ago after 15 years' service with the Fay, Spofford and Thorndike engineering firm. During that decade and a half Henderson was resident engineer for various New England airports. Altogether he was associated with the founding of 30 or 40 airfields. He was chairman of the Beverly Aviation Committee and took an active interest in city and state politics, being a member of the Beverly Democratic Committee. He was a member of Liberty Lodge A.F. and A.M., Scottish Rite Bodies, up to and including the Massachusetts Consistory and Aleppo Temple Shrine. He is survived by his wife Elizabeth S. (Flander); four daughters, all of Beverly; a son, Leroy, Jr., of Danvers; and a brother, Austin B., of Beverly. The '05 class secretary, Fred Goldthwait, had spotted and sent me a copy of the obituary; he said he was particularly interested in it because he had "dined very frequently with Roy during a period of 20 years (at Thompson's Spa), also because of our connections at Aleppo Temple." Leroy was with us all four years. He was in the '04 Tech Show, "Simon Pure Brass," but never attended a reunion or Alumni Day. . . . Harold Eugene Young, VI, S.B., died on June 14. Cy was born in Bristol, Maine, January 25, 1884, prepared at Lincoln Academy in Newcastle and Coburne Institute in Waterville; was on the '03 tug-o-war team and a member of the Electrical Engineering Society. His thesis was on "Electric Drive for Mills," with A. B. Sherman. The first year out, Cy was with AT&T in Boston and New York, but he soon joined the Coast and Geodetic Survey and for a few years was city electrician in

Manila, P.I. Then followed a series of special investigations-for Stone & Webster, I believe-of gas, electric, street railway, rates, service, ordinances, franchises, etc., in principal cities of the Orient, in Europe, and in the U.S.A. He made two trips around the world. For a short time in 1913 he was sales manager with the Toronto Electric System, then for a couple years was power engineer with the Minneapolis G.E. Company, and from 1915 to 1917 was its sales manager. That company became the Northern States Power Company in 1917, with Cy continuing as sales manager; he was vicepresident in charge of sales from 1930 until he retired in 1948. Much of the above is from the detailed account of his activities up to 1936 which Cy sent to Jim on the questionnaire for that proposed "Thirty Years After." He was then a vice-president and director of several power companies and in charge of sales for them and various subsidiaries. He was a widower with a son, Robert. He said his hobbies were golf, hunting, fishing, and aviation, and added: "am a licensed pilot and have flown my own plane over almost all parts of the U.S." His son, who lives in Honolulu, sent the Alumni Office a bulletin issued by the North Central Electrical League reporting Cy's death while visiting relatives in Bristol. He also had homes in Savage, Minn., and Pompano Beach, Fla., and the bulletin said: "He was the first chairman of the N.C.E.L. and served in that capacity from 1936 to the date of his retirement. He played a major role in organizing the league, because it was his firm conviction that progress in the electrical industry depended upon all its branches working together in an atmosphere of mutual understanding and confidence. He was a leader held in high respect by members of the electrical industry. His friends were legion. He was a man of vision, and he dedicated his life to the progress of the industry. May the fruits of his labors keep his memory green." Cy was most loyal to his class and to the Institute. He attended our 25th Reunion at Oyster Harbors and also our 50th and 55th. Through the years he and Abe Sheman have continued the close friendship which began during student days when they did their thesis together. In his letters to me, Abe has told of visiting Cy during their sojourns in Florida, and he sent me a card in June saying that Cy was in the hospital in Damariscotta following a prostate operation. It was from Abe, too, that I received the first report of Cy's death, of which he had been informed immediately by telegram.

The third death reported was that of Professor Herbert Shaw Philbrick, II, S.B., June 21 in Evanston, Ill., in the dwelling that had been his home for 51 years. Lengthy obituaries from the Portland Sunday Telegram and the Chicago Tribune contained most of the information covering his career; the clipping was sent to another Philbrick—Burton G.—who is secretary of '02, by his son who is on the editorial staff of that paper. The December 1957 Review contained a brief account of Professor Philbrick's teaching career but mainly told of his visit the

previous summer to the Keyes Fibre Company plant in Waterford, Maine, for which he had done some engineering work when fresh out of M.I.T. Professor Philbrick was born April 13, 1875, in Waterville, Maine, attended high school there, and earned his A.B. at Colby College in 1897. He then became principal of Calais High School until he entered Tech with us. He was a member of the Mechanical Engineering Society and his thesis was "An Experimental Investigation of the Specific Heat of Superheated Steam." For a year or so he did engineering work with the Lombard Log Hauler Company in Waterville and was also a draftsman at the Keyes Fibre plant. From 1907 to 1912, he was assistant professor of mechanical engineering at the University of Missouri and then began his 30-year tenure at Northwestern, becoming, in 1930, the chairman of the M.E. department, and in 1942 chairmanemeritus. During the 1920's he was a key man in the expansion of the main campus in Evanston. For 20 years he was a member of the board of directors of the Family Welfare Association and its president for five years. He was also president of the Family Service Association in Evanston for three years. Through the years he maintained contact with his home town, being president of the Waterville Iron Works for many years, and visiting it summers from his vacation spot on Squirrel Island. A trustee of Colby College in the late 1920's, he was instrumental in the relocation of its 115-year-old campus from the bank of the Kennebec River to the new site on the hills west of town. In corresponding with Sherm Chase in recent years, Professor Philbrick explained why he could make only a modest contribution to our Alumni Fund, and told how he was "having a good time-being retired is the best job I ever had, though it doesn't pay as much as some. I have a shop in the basement with plenty of hand tools and I tinkermy eyes are good and I read much." Professor Philbrick lived a full, useful, rewarding and long life, of which his wife and their four children can be justly proud. I believe that he had recently been working on a family genealogy. Survivors are his widow, Mrs. Grace E. Matthews Philbrick, three sons and a daughter, seven grandchildren, and a great-grandson.

Through the co-operation of a '31 coed, Mrs. E. L. (Marjorie) Heath, XII, S.M., I received a report of the death on July 2 of Philip J. Potter, VI, in Milford, N.H., after a long illness. He was born in Littleton, Mass., in 1884 and his home address was Concord during our freshman year. I believe he was connected with the Fitchburg Division of the B. & M. railroad for a few years when his address was Ayr; along in the 1930's the address was Hoboken, N.J., and for the last 28 years he lived in Milford. Mrs. Heath enclosed a clipping from the Manchester, N.Y., Union-Leader. She said she became acquainted with Mr. Potter in 1950 and that when she and her husband visited him late in 1962 he showed them his collection of American glass. He has been a teacher in Milford High

School, she said, and was employed by the O.K. Tool Company as a draftsman. In the clipping it was reported that he was a veteran of World War I and a member of Ricciardi-Hartshorn Post, American Legion, and the Souhegan Valley Barracks. The widow, Mrs. Flora Potter, lives in West Concord, Mass., as does their daughter, Mrs. Helen Tompkins.

A letter from Sadie Sherman told us of A.B.'s death on September 9. He had sent me a postcard August 18 which said: "Greetings, then au revoir. This is my swan song. Cancer all through, bones and all. They give me a few days, few weeks, even perhaps a few months. This going by inches ain't no fun! Last regards. A.B." He had not known it was cancer until shortly before, but Sadie had known for six years, and said: "I have steeled myself for it, but even so it doesn't make it any easier to take." I had sent A.B. a full-page typed letter on September 4 which Sadie said he had received and enjoyed, and I promptly sent her a note of sympathy for the class. Andrew Bartlett Sherman, Jr., VI, S.B. was born September 3, 1883, in Fitchburg, Mass.; prepared at Fitchburg High School; entered with us, and was on the 1902-1903 tug-o-war team and member of the Electrical Engineering Society. His thesis was: "Electric Drive for Mills," with H. E. Young. For a few years he was with AT&T in Boston, then for the rest of his business life was with the D. M. Dillon Steam Boiler Works in Fitchburg. A.B. retired, I think, by or before 1940 and Sadie wrote that this would be her first winter in the north in 25 years. They always spent the three winter months in Florida and the rest of the year in Rochester or roaming around, because A.B. liked to drive places. Andrew Sherman was all through the years one of our most loyal and interested classmates and a true friend of M.I.T., having been an honorary secretary for a period. Reunions and Alumni Days will not be quite the same without A.B. and Sadie.

Another loyal classmate, Herbert James Ball, II, S.B., died September 28 at Lowell General Hospital. He was born January 27, 1885, in Cambridge and prepared at Brighton High School, while living in Allston. He was a member of the Mechanical Engineering Society and his thesis was "Plant Test on Cotton Mills of Blackstone Manufacturing Company, of Blackstone, Mass.," with H. W. Brown. After graduating, Herbert became an instructor at Lowell Textile School, the start of 57 years association with what is now the Lowell Technological Institute. After his technical training at Tech, Herbert was graduated in 1916 from Northeastern's School of Commerce and Finance with honors in professional accountancy. The class notes in the December 1957, Review carried a full account of his career at the time he received an honorary doctorate of science from L.T.I. Herbert was internationally recognized as the creator of the concept of textile engineering, and wrote many technical and professional papers. He was a fellow of the Textile Institute (British); of the American Society for Quality Control;

past president of the American Society for Testing Materials; and member of the Textile Research Institute, the Society for Engineering Education, and the Mechanical Engineering Society. For the 1916 class history he wrote: "Instructorteaching in engineering, accounting and business administration subjects. Summers are engaged in practical work in building construction, machine design, efficiency work, auditing and accounting. H.J., as he was known to hundreds in education, industry, and among the L.T.I. alumni, was all through the years a loyal classmate and Tech man, attending every reunion and many other gatherings. In 1907 he married Fannie J. Babcock, to whom a letter of sympathy was sent promptly. They have two daughters, Mrs. Alden Honeycutt of Raleigh, N.C., and Mrs. Gerald T. McNaster of Valley Forge, Pa. . . . Two address changes: James B. L. Orme, V, is now at 201 East 62nd Street, New York, 21; and Frank Benham, I, has been at his winter home in Daytona Beach since early in September, with the same P.O. Box 1175. —Edward B. Rowe, Secretary-Treasurer, 11 Cushing Road, Wellesley Hills 81, Mass.

'07

At the Alumni Fund Conference, which was held September 5-7 at the Institute, 1907 was represented by President Donald Robbins and Secretary Phil Walker. Both of us will have a part in the 1964 campaign to raise \$1,000,000. Don will send out the class agent's and class president's letters, and your secretary will serve as regional vice-chairman for the Whitinsville area. The Saturday morning session was especially interesting, when three of the Institute professors gave us a glimpse into 'New Frontiers in Science and Engineering.' The bus tour of the campus was an eye opener as we saw the new construction that is going on. Some of the '07 men who have missed out on Alumni Day gatherings will not recognize the campus when they come to Cambridge and will need a guide to get around. Fifty-one of the 122 class members contributed \$6,966 to the 1963 Fund drive. This means only 42 per cent of the class were givers. Let's boost this percentage for 1964!

Perhaps some of the Course IV men will recall Vic Blackwell, who was associated with 1907 but did not receive his degree until 1908. At present he is a very successful architect in London, Ontario. I talked with him at length at the Alumni Conference. He inquired about many of our classmates. I have sent him a printed list of both the living and deceased members of '07 and asked him to write to some of his former associates. His address is 310 Princess Avenue, London, Ontario, Canada, if any of the Course IV architects wish to correspond with him. . . . At the time of Lester Brock's death, I wrote Mrs. Brock, on behalf of the Class, sending our sympathy. She replied and gave me some further information about Lester's past activities. Lester was a salesman for the Americhem Company for 17 years until his retirement in 1960. He was a member of the University Club of Akron and of the American Chemical Society, Division of Rubber Chemistry. He served St. Paul's Episcopal Church of Akron as vestryman and lay reader, and was the parish historiographer for the Diocese of Ohio. Funeral services were held July 5 at St. Paul's Episcopal Church, with interment in Riverview Cemetery, Clifton Springs, N. Y., the city where his son Lester W., Jr., lives.

After many, many years of writing Lexington as Harry Moody's address, I have word that he has moved to Apartment 416, 233 Massachusetts Avenue, Arlington 74, Mass. . . . While spending a few days of vacation on Cape Cod, I visited one afternoon with George Griffin, I. George and I did our thesis together in 1907, and I have kept in close touch with him ever since. George is nearly 82 but is quite active physically, although retired from active duty with the Falmouth Water Department, where he served as superintendent and engineer for many years. He has built up a nice private surveying and engineering business in Falmouth and Woods Hole, which he still carries on, but expects his son Robert to take it over very soon. . . The 1907 postage and printing 'kitty' needs feeding, so all '07 men may expect an appeal from me for help very shortly. Why not send me a check now?-Philip B. Walker, Secretary and Treasurer, 18 Summit Street, Whitinsville, Mass.; Gardner S. Gould, Assistant Secretary, 409 Highland Street, Newtonville, Mass.

'08

Thanks are due to Frank Sherman of Tucson, Ariz., for his recent newsy letter. He has called on Ralph Batchelder in Pasadena, Calif., twice this year and while on a trip up the West Coast to British Columbia, he visited with Winch Heath at Seattle. . . . Frank told me of the death of Rinker Kibbey of Santa Barbara, Calif., on July 18, 1963. You will remember Rinker as a principal in several of the Tech Shows in our days. . . . Harry Bentley of Claremont, Calif., sent me a bunch of snapshots (22) taken at our 15th Reunion at West Bay Inn at Osterville on the Cape. These will be added to the report on our Crystal Reunion. Thank you, Harry. . . . Jimmie Burch of Dubuque, Iowa, attended the A.B.A. Convention in Washington, D.C., October 5-9, and the I.B.A. Convention in DesMoines, Iowa, October 20-23. His daughter, Mary Juno, who is with the LaSalle National Bank in Chicago, has been appointed assistant trust officer and assistant secretary. His grandson Frank is a junior at State University of Iowa; his granddaughter, Nikki, is at American University, Washington, D.C., working for her master's degree; and grandson Jimmy is a sophomore at Michigan State University. . . . We are sorry to report the death of Bill Barton of Sarasota, Fla.,

in December, 1961; and the death of Clarence Spiehler of Cincinnati, Ohio, in the spring of 1963. . . . How about the Alumni Fund? Be sure to be generous. We hope to raise a million this year. Best wishes for Christmas and the New Year.—H. Leston Carter, Secretary, 14 Roslyn Road, Waban 68, Mass.; Joseph W. Wattles, 3d, Treasurer, 26 Bullard Road, Weston 93, Mass.

'11

We have been notified of the death on July 8, of Roland S. Simonds, IV, in Manchester, N.H. Roland was born in Georgetown, Mass., and prepared at Haverhill, Mass., high school. Our records show he was a member of the architectural firm of Goodspeed, Hollings and Simonds in Concord, N.H., and later practiced under his own name in Manchester, N.H. For some years, up to the time of his death, he had resided in Manchester. . change of address for Irving W. Wilson: Aluminum Company of America, 501 Alcoa Building, Pittsburgh 19, Pa.— John A. Herlihy, Treasurer and Acting Secretary, 588 Riverside Avenue, Medford 55, Mass.

12

A postcard from the Jay Pratts mailed from Stockholm reports that Priscilla had just attended a Girl Scout meeting in Denmark and they were spending five weeks touring Scandinavia and England. Jay asked about an interim reunion. What do the rest of you fellows think? One can be arranged if enough interest is shown. . . . Hugo Hanson writes that he has moved and is now at Hopkinton House, Washington Square, Philadelphia 6, Pa. Hugo is semi-retired from the Hamilton Paper Company and is working with them in a consulting and advisory position. Hamilton has recently become part of Weyerhauser, the large West Coast paper and timber combine. He reports that competition is extremely keen in the paper business as everywhere else. . . . The 1963 Alumni Fund figures have just been released and 1912 with 192 living members can only show 69 contributors, or about one in three of the class. Can't we lift this by everyone sending in from \$10 to \$25, at least? This will help our total; the total sum contributed by us was \$3,634, a much smaller amount than '11 or '13. Your check should be sent to the Alumni Fund, M.I.T., Cambridge, Mass., and is, of course, tax deductible. I know Albion R. Davis, our Class Agent, would greatly appreciate your help.

Mrs. Shepard and myself had a most interesting trip abroad this spring, flying first to London for a few days to catch up on sleep lost in flight. From there we flew to Berlin for a few days and enjoyed a very interesting trip through East Berlin with a private guide who allowed us to stop and take pictures at any point as well as to look into the shops. We then flew to Hanover and spent two days at

the Hanover Fair, which had a section showing European materials handling equipment in which, of course, I was very interested. We then flew to Stuttgart, where we picked up a Mercedes and spent the next two weeks driving through the Black Forest and along the Loire Valley. We were fortunate in having a list of the places at which to stop compiled by Sam Chamberlain, '18, who has published a travel and cookery book on France. It was a beautiful time of year. The fruit trees and lilacs were in bloom and the weather perfect. We covered the invasion beaches and left the car at Antwerp to be shipped to Boston. We had a week in Paris and about two weeks in London, where we were fortunate to witness the "Grouping of the Colors" for the Queen's birthday and the Chelsea Flower Show. A boat trip up the Thames to the Greenwich Naval College and Royal Observatory proved to be extremely interesting. I am sure that many of you are taking interesting trips that your friends would like to hear about.-Frederick J. Shepard, Jr., Secretary, 31 Chestnut Street, Boston 8, Mass.; John Noyes, Assistant Secretary, 3326 Shorecrest Drive, Dallas 36, Texas.

13

1963 is almost over and we want to wish you and yours a very Merry Christmas and Happy New Year. It has been gratifying to receive delightful colored snapshots from several classmates who attended our 50th Reunion. It has been suggested that we start a scrapbook which would include photos of various reunions, our travels-domestic and foreign-and family scenes. Your secretary would be glad to collect such photos and assemble them for our next hobby show. Please put all pertinent information on the back of any photos you send. . . . We hope that Allison Butts' wife has recovered from the operation which prevented them from attending reunion. . . . Neva, II, Ready Blaine, wrote us prior to reunion and again after receiving our group picture; she wished us a very successful reunion, and also said that Neva, III, and Neva, IV, would visit Weston in September. The Capen Family regrets that we were unable to visit them at that time. . . . Ken Blake wrote of his memories: "Charlie Brown throwing metallic potassium out of the window of the chemistry lab into a snowbank to get a nice explosion . . . Al Brewer and others lugging a blackboard to the roof of Engineering A so we could write notes to strike-breaking telephone operators in the Plaza Hotel . . . The wolf whistles for the girl who played the piano for freshman gym . . . Jack Horsch helping to lock the shower door in fire assay lab with people inside . . . Bill Mattson running me into the grandstand at freshman Field Day relay team trials . . . Marion Rice in dungarees working on a 24-hour boiler test . . . The big boys in Company A of the Cadet Corps setting a pace that had 'Butsy' Bryant running at the tail end of the column. (That one broke me from corporal.) . . . I wonder if Max Waterman still has my notes on the Bible course he borrowed just before the exam? . . . And Brett, does he still wear white gloves inside out to cover rust spots picked up by drying on steam pipes . . . And those inspections! . . . Larry Hart's name still makes my knees shake, for when he finished reading his thesis at graduation, I was next. Yes, the names on the Guest List certainly bring back memories. My thoughts are with you all. Best wishes and good health."

We received a postcard from Emma and Al Brown from Tokyo at reunion time. . . . G. N. Burrell wrote that he is slowly recovering from two years of illness, so could not make the long trip to Boston. . . . Arthur Carpenter states: "I am sorry that I shall not be able to attend the 50th Reunion of our class as I have an important trip to Kansas coming up at the same time. I am sure that you will all have a wonderful time, and I send greetings and best wishes to you all." . . . Harold Crawford and Mary extended their trip last June to New Hampshire, Connecticut, and Key West, Fla., then returned to their own northwest corner of the country. They will try for the 55th Reunion. . . . Your secretary has been very pleasantly rewarded by the Class of 1916 for co-operating and sharing some of the facilities at Oyster Harbors. He has received very wonderful letters from Ralph Fletcher, President, and Jim Evans, 1916 Reunion Chairman, together with samples of their stationery, regional directory and various other forms.

A mystery of over four years has been cleared up, and we now know definitely that our dear classmate, Edward B. Germain, who disappeared four years ago, is deceased. Ed lived a very busy and influential life, and served from 1922 to 1954 as president of the Dunlop Tire and Rubber Company. He served as assistant to the Secretary of the Navy Frank Knox during World War II. At the time of his disappearance, Germain was a director and member of the executive committee of the Marine Trust Company of Western New York. To Mrs. Bennette C. Germain and Edward B. Germain, Jr., the Class of '13 offers its sympathy. . . . Both the Alumni Office and Charles Thompson received letters from Mrs. Dana H. Gillingham of 1444 S.W. 14th Terrace, Miami 45, Fla., telling that her husband, Dana, passed away March 26. . . . We have been informed by the Alumni Office that C. Kirk Hillman, 2601 North Broadway, Seattle, Wash., died on March 30. Our sympathies go out to the families of our departed classmates; if anyone can furnish us with further details, we shall be pleased to add to these notices. . . . Again, we regret to announce the passing of John L. Kerr, of Fortune's Rock, Biddeford, Maine, and Indian Rocky Beach, Fla., on April 20. We heard from John early in the winter last year when he stated that he would be unable to help us or attend the 50th. Gordon Howie also visited him in Florida and knew John had had several severe heart attacks over the past years. . . . In the middle of May, we received a long letter from Leo Hartnett stating that he would attend the 50th

with his wife, son and daugther-in-law. Shortly afterwards, his son notified us of his death following a very brief illness. Leo retired from the Boston City Engineering Department in 1950. He and Mrs. Hartnett established and operated the Long Meadow Inn in Portsmouth, N.H. He passed away at the Portsmouth Hospital on May 29. He served in the Air Corps in World War I and was a past commander of the American Legion post of Waltham, where he resided until his retirement. We who knew Leo share this great loss with his dear wife Mary; his sons, Commander Leonard A. Hartnett (USN) of Leonaxa, Kansas, and Donald S. Hartnett of West Medford; and 10 grandchildren. . . . We are indebted to George MacTarnaghan, who notified us of the death of his brother-in-law William F. Wallis, 89, at the Kensington Gardens Sanitarium on June 23. He had suffered a bad head injury as the result of a fall and succumbed after a heart attack at the hospital. A native of Baltimore, he received a B.A. from Johns Hopkins University in 1896 and a B.S. from M.I.T. in 1913. He worked for the U.S. Coast and Geodetic Survey from 1900 to 1910. He joined the terrestial magnetism department of the magnetic observatory at Waterloo, Australia, in 1916 and supervised the construction of an observatory at Huancayo, Peru, from 1921 to 1923. Until his retirement in 1946, he worked on variations and corrections for international magnetic standards, gaining a reputation among his colleagues for his precision. William Wallis is survived by his dear wife, Alberta S. of 5219 42nd Street, N.W., Washington, D.C.; a son, Richard F., of Forest Heights, Md.; and two granddaughters. The familv and the Class of '13 mourn for this

very accomplished scientist. Early in September, we were notified by Mrs. Paul A. Vogel that her father-inlaw, Andrew Vogel, had passed away at the age of 76 on August 20. His death followed three months of hospitalization, convalescence, and a second hospitalization with the prospect of amputation if he had survived. To Andy's family, we extend the most heartfelt condolences; we shall miss this loyal son of M.I.T.... Rosalind Capen had a very pleasant telephone call from Larry and Arry Hart, whom we have always considered tops among our many '13 friends. They were on their way to Maine for a vacation following their son Fred's six-year hospitalization and his demise early in the summer. Larry, you certainly deserve great praise and sympathy for your long time patience and paternal loving care. . . . Lammy Lemaire sailed on the 'Queen Mary' for London on August 22. Following the reunion, he spent his leisure time in Connecticut, Washington and Cornell, where his daughter, Diane, is studying for her master's degree in aerodynamics. He expects to spend several weeks in England, and on his way home will confer with many 'sovereigns' of Southern Europe and Asia on his one-man goodwill tour. Among the many notes and letters received by the Capens this past two months was one charming one from Marguerite Kelly (Mrs. Prescott). We shall never forget the real friendship and love which is rampant among you men of 1913 and your charming wives.—George P. Capen, Secretary, 60 Everett Street, Canton, Mass.

'14

Herman Affel has just been appointed representative of M.I.T. for the Bates College 100th Anniversary Convocation. This gives me a chance to say a word about how much Herman does for 1914. (He would not permit me to do so if he saw these notes before publication.) Not only as assistant secretary but also as class agent, he is a very faithful officer, always attending every possible meeting and offering many helpful suggestions. Only a year and a half ago, he had to spend four months in the hospital. . . . Rome, Maine, is his home.

Again, we must report the death of two classmates. Harold E. Wicher is reported to have died a very few years ago. He was a chemist, and I remember him well, as most Course Fivers will. He withdrew from the Institute during his junior year. For many years, he was associated with the Emerson Laboratory of Springfield, Mass.; later he was with the D. H. Dexter and Sons of Windsor Locks, Conn. Wicher came to the Institute from Taunton, Mass. He married Florence Constant on November 30, 1912, and had one son. . . . John Elliott Wood died October 3, 1963. Wood came to M.I.T. after being graduated from the University of North Carolina. After graduation from the Institute, he joined Cram and Ferguson, Architects, of Boston. Shortly after, however, he was called to service during the Mexican border incident. He had a strong love for the military, starting with his service in the National Guard. In May, 1917, he joined the first Plattsburg unit and by September, 1917, was in the A.E.F., serving in many combat engagements. Wood then remained in the regular Army, always in the Corps of Engineers. He rose in rank until he became a brigadier general, in which rank he served for six years until his retirement in 1949. Upon his retirement, he attended Harvard University and took a degree in city planning. While at Harvard, Wood renewed his M.I.T. associations, and we saw him often around the Institute. Wood was an exceptional man who earned four degrees and gave great service as an officer. His military awards included the Silver Star, Legion of Merit, Bronze Star, Army Citation Ribbon, Order of the Crown of Italy and Military Cross (which were bestowed in person by ex-King Umberto, in 1945), and a honorary citizenship in Viareggio, Italy. He was never married and made his home at Anchorage Farm, Currituck, N.C.-H. B. Richmond, Secretary 100 Memorial Drive. Cambridge 42, Mass.; Charles P. Fiske, President, Cold Spring Farm, Bath, Maine; Herman A. Affel, Assistant Secretary and Class Agent, R.F.D. 2, Oakland, Maine; Ray P. Dinsmore, 50th Reunion Chairman, 9 Overwood Road, Akron, 13, Ohio.

15

"1915-The Class Supreme." What makes 1915 Supreme, what makes our class tick? It's the untiring and indominatable spirit of our devoted and willing workers: Ben, Max, Clive, Al, George, to which star-studded list we now add Bill Spencer, who has generously and graciously agreed to be area chairman for special gifts for the New York to Washington area. Many thanks, Bill, and all the best in your new class job. And with all this, the generous and kind hospitality of our classmates knows no bounds. Although Fran and I were, unfortunately, unable to accept kind invitations from Bill Campbell, Doug Baker and Boots Malone and Wayne Bradley to be his guests at Wayne's Pike, N.H., 'Forty Acres,' we did have a summer visit and lunch with Pop and Charlotte Wood at their lovely Royal Barry Wills House in Peterboro, N.H., and a dinner and the evening with Phil and Helen Alger at their woodsy place in Romney, N.H. Then Charlie and Bee Norton gave us the use of their Vineyard Haven house for a week. We invited to join us Jack Mohr, '50, and his wife Jean (Wellesley, '49). Then over the Columbus Day weekend we saw Speed Swift at New London, N.H. These were all pleasant and happy visits with fine old class friends-really heart warming experiences.

I think Phil Alger has an area special gifts fund job around Schenectady. At any rate, Phil is another devoted worker for the cause. While at Charlie's place on Martha's Vineyard, we all had dinner one night at The Dunes, a big, gay colorful place near the Katama Beach outside Edgartown, owned and operated by Frank Atwood, '14. There we met Charlie Foote, '16, known as Chief. I don't know whether this applies to his rank with the tribe of Gay Head Indians still down there or his position in the local island constabulary. At any rate he is a nice fellow, but has not enough influence to stop the steady downpour of rain we had during our entire stay on the island. . . Oh, yes, we had lunch and a delightful visit in Newtown, Conn., with Jim and Lena Tobey, both in good health and spirits and preparing themselves for a winter of suffering at West Palm Beach. This was to follow a week's holiday on Cape Cod to prepare Jim for his series of lectures at Yale on public health matters. On the way to Jim's we visited Fred, '27, and Jan Lutz in Orange, Conn., and had a delightful dinner and evening with Vince and Marion Maconi who gave us a colorful and interesting slide show of their Canadian Rockies trip last summer. His brilliant slides shamed the ones we took up there in 1957. Vince and Marion will head for a winter of golf in Floridaah, me! . . . Always loval and active in his attendance, Max was at the Septem-

Now, all the above notes are just an aperitif for the main pièce of fun food (a little drinking), frolic and friendship of the reunions we had on the West Coast

ber meeting at M.I.T. of Alumni Fund

Officers.

with classmates and their families whom we had not seen for many years. In Los Angeles Ray and Margaret Stringfield, ably accompanied by Ruthie Place, took us in charge for a gay round of sightseeing and dining, including a fascinating afternoon at the fabulous Disneyland and many anxious miles on their famous thruways. (Maybe the less said about traffic and drivers in L.A., the better.) Then, Bob and Mrs. Welles gave a number of us a delightful lunch served on the terrace overlooking the beautiful and colorful garden on their lovely estate. Present were Brute Crowell; Minnie Kahn (Ken's widow); Bill and Pearl Melema; Frank and Gladys Boynton; Ray and Margaret Stringfield: Ruthie, Fran and me. It was a clear, hot, sunny day. After lunch we sat around in a semicircle of comfortable chairs on Bob's lawn, after a stroll through his beautiful gardens, and talked of many 1915 and M.I.T. affairs. I was glad I could answer the many questions of this loyal group anxious to know about things at Cambridge. Dave Hughes, unfortunately, was in the hospital and could not attend; we all missed him and are glad to know Dave has completely recovered from his incapacity. Bob and Mrs. Welles were most kind and hospitable, and we all had a simply wonderful time with them at their beautiful place. The next evening Ray, Margaret and Ruthie poured us onto the 'S.S. Mariposa' for our six weeks' South Pacific cruise. From our experience and observations on Tahiti, I don't understand how 'Hot Wire' Smith, whom we had in third year electrical engineering, could have retired to live there.

Upon our return we reached San Fancisco on May 23, where Earle and Beulah Brown met us and took us in charge for two gay days and nights including dinner with Mary Plummer Rice and her granddaughter, Penny Becker. What spirit, ambition and determination Mary has! For years she has been an outstanding volunteer Red Cross worker at the big Marion General Hospital and mentioned many times in local publications. This fall she is leaving for a year's study in Europe with trips to Greece, France and Italy. All this preceded by a summer in Buenos Aires. What a lady! Checking our guide books later, we found Earle and Buelah had completely covered practically everything in San Francisco and its environs of sightseeing value and interest. What a time with them! Fran and I were, frankly, deeply and sentimentally touched with the warm, kind, friendly feeling of all these classmates and their families, who did so much, far above and beyond all our expectations, to make our first visits to Los Angeles and San Francisco so pleasant, enjoyable and interesting. To you all, our profound appreciation with many, many thanks for all you did for us.

Ruthie's son, Bill Place, '43, owns and operates 'Holex' in Hollister, Calif.; they are designers, developers and manufacturers of precision explosive cartridges. . . . Brute Crowell wrote: "It was a real pleasure to see you and your wife when you stopped in L.A. on your way to the islands. I hope you had a wonderful trip

and that the anticipated pleasure was more than realized." . . . Frank Boynton wrote: "It was so nice to hear from you and known that you have returned safely from your long journey. We hope that you enjoyed yourselves. The little gathering at Bob Welles' home was indeed a pleasant one, and we all felt honored that you stopped to see us. We were fortunate in having such a nice day for it. Shortly after you left we had damp and overcast weather for quite a long spell. Now our summer has begun and we are having sunny weather pretty regularly. I called John Gallagher on the telephone shortly after our gathering and had a nice chat with him. He seemed fine and was sorry he had been unable to attend. We shared an apartment my first year at Tech. Our bird friends have been quite interesting of late. Especially the hooded orioles. There are two of them outside now quarrelling over the feeder. They will be leaving us before long now as the young are well grown and about ready to depart for Mexico, where they spend the colder months. Regards to all and take care."

Earle Brown wrote: "We were very happy to hear that you arrived home safe and sound after that dangerous trip on the Santa Fe. We keep thinking of the fun and pleasure we had showing you a little of Sunny California. We certainly enjoyed being with you and Fran and wish that we had more time to show you this area. The weather is now much better but June is not as rare as the poet writes. I thought of you both during the 1963 Alumni Day and felt that you were having a very pleasant time with our classmates. I hope I can get to some of those gatherings before the 50th. I have been very busy since you left here, things just popped, and I am still trying to get time to install that dust collector and comply with the law. I hope you both have a very happy summer and will enjoy your leisure hours." . . . And later, in September, Earle and Buelah wrote from Hawaii, where they were spending a month: "We are having a good rest on the small island of Maui, nothing to do but eat and swim. This is a nice quiet place and the tropical scenery is beautiful with the extensive well kept grounds to wander around. We are looking forward to M.I.T. in 1965. . . . Best regards." . . . On his way to California in September, Wayne Bradley stopped to visit Louie Zepfler in Tucson, where Louie and his wife are running a big apartment inn -a wonderful retirement job. Next month's column will give you the playby-play of our big Boston Class Dinner on November 8 to discuss first plans for our 50th Reunion (oh, my!) in June, 1965. You have already received a simple, preliminary questionnaire. There is no obligation in your answering it, but your answers will determine how and what we do. So, how about it, if you have not already answered? You could not ask for more interest and support than your hard working class officers give you. Fran and I couldn't ask for any more than the kind, generous and friendly classmates have done for us. "1915-The Class Supreme."-Azel W. Mack, Secretary, 100 Memorial Drive, Cambridge 42, Mass.



Elizabeth G. Pattee, '16, had led a busy life as a landscape architect, professor, lecturer and writer. She retired this June from the faculty of the R.I. School of Design and subsequently attended her first M.I.T. class reunion.

'16

We have a good looking picture of Bill Barrett to put on the reunion bulletin board next June; it is from the August issue of the American Craftsman's Council, announcing his appointment as president of A.C.C. on September 1. The objective of A.C.C. is encouragement and dissemination of information on craftdesign and merchandising on a national scale. They maintain a museum on West 53rd Street in New York, America House, a sales outlet for crafts, 'Craft Horizons,' a magazine with a circulation of 25,000, and the School for American Craftsman, a division of Rochester Institute of Technology. Bill retired as a vicepresident of Metropolitan Life Insurance Company on December 31, 1962, after close to 40 years' service. Besides A.C.C., as noted last month, he is chairman of the Planning and Development Committee of Sturbridge Village (350,000 visitors this year; planning for 600,000 by 1965). He is also a consultant on life insurance company management, and continues as a member of the national personnel committee of the Boy Scouts. Sobusy he still is! . . . Congratulations to Willard Brown! At the Vienna Lighting Congress of the International Commission on Illumination, in June, 1963, he was elected vice-president of that organization (C.I.E.). He has been the president of the U.S. National Committee of C.I.E. for some time. 'C.I.E.' stands for Commission International de l'Eclairage!

In November we quoted a May 22 release mentioning **Bob Wilson** as Acting Chairman of the U. S. Atomic Energy Commission. Now we have two more releases: "Dr. Robert E. Wilson, Acting Chairman of the Atomic Energy Commission" and are we proud! One announced that a total of 41 nuclear experts

would take part in two scientific symposia to be held late in August and early September; the first in Vienna on radiological health and safety in the mining and milling of nuclear materials, and the second in Amsterdam on exponential and critical experiments. On July 30, Bob also gave testimony on private ownership of special nuclear materials (H.R. 5035 and S1160) at hearings of the Joint Congressional Committee on Atomic Energy. More evidence of a busy, busy life! . . . Bill Leach reported good progress on his broken shoulder bone and back injury, although he is still wearing a 'corset.' In mid-October was planning to leave the Youngstown farm for their home in Austin, Texas. Bill and Helen wish to express appreciation for all the letters and cards and attentions received from classmates. He says: "Ray Brown has called to see me several times." In January they are taking a six weeks' cruise on the S.S. President Wilson from San Francisco to Hong Kong, Japan, etc. Ray Brown reported visiting Bill again in September at his "121-acre fruit farm." Says Ray, further: "It was great to find him so far on the road to recovery from his bad fall last summer. Speaking of fruit farms, classmate Chet Richardson, XIV, has a big one, also in Youngstown, which yields a substantial tonnage of cherries each year. Last spring I saw the orchards in full bloom-wonderful!"

Herb Mendelson had a most inactive summer because of a broken wrist sustained on June 30. Asked 'how come,' he said something like: "There's been a great deal of discussion as to the manner in which my wrist was broken. The guesses advanced by my friends were in the following order: (1) Fight with Vi, which she won; (2) the other fellow's nose must have been in terrible shape; (3) anger vented on me by Jet because he failed to receive a second biscuit for dinner. The latter is very close to the case, for I had Jet out for a walk, slipped on a clay bank, pulled back on the leash with my right hand and found 80 lbs. of dog immovable and thoughtlessly landed on my left wrist. Any more questions?" Herb and Vi plan a little two-month trip, starting the end of February, to India, Nepal, Thailand, Hong Kong, Japan, and home via Hawaii. No mention of a safari; we will wait and see. Maybe they, too, will write about unusual things seen, just for our little old column! . . . The Henry Shepards were up in northern New Hampshire in their cottage in Randolph most of the summer-elevation 1,800 feet. He apparently kept busy developing a new lawn, setting glass in windows, refinishing furniture, and doing other odd jobs around the place.

Back in May Ed Hanford reported from Hammond, Ind., that he had just come from a Spanish class and the final exam. Says he: "I finished at the head of the class, which is just a little bragging, but is excusable since most of the students could qualify as my grandchildren." The preceding week he had been in Washington for an orientation meeting "on a post office we are designing." In March, he spent a week in Birmingham, updating an appraisal he had made two

years earlier. "I arrived in Birmingham on election day and in the middle of a hurricane. It was the day they changed their form of government from a threeman rule to a mayor and council. Birmingham has tremendous potential, and I believe that some day it will be another Atlanta". . . . Peb and Dolly Stone packed their bags and car shortly after reunion time to go back, for the whole summer, to their little own island at the upper end of Lake Winnipesaukee. As he said late in June: "Lots of projects and lots of time to play around with them. Water at 69 degrees but I'm waiting for 70 (at least)! We are in the three-change clothing period; it is cool till 1:00, warm till 6:00, cool till 12:00. Changes from slacks to shorts, from long sleeves to short; Gordon's Gin is \$3.30 per fifth." Their island, Little Beaver Island, is within sight of Steve Whitney's summer place, "Whit's End" in Meredith, and Peb notes: "Feel a bit sad passing his place every day or so. Haven't seen any activity so far. Beautiful place; kept up in good shape as usual." And later in August: "Things go on up here much as usual. Plenty of projects; each one completed begets a couple more: pump repairs, battery recharging. Ran my boat onto an unmarked rock the other day. The insurance company was glad to pay for \$400 worth of repairs. Hot weather quite bearable in my one piece bikini."

Stew Rowlett continues "struggling" as he says, with portrait painting in Clearwater but has a top-level teacher who is very exciting, Paul Seavey, "one of the best in the U.S.A. and represented in the National Gallery in Washington." He says "since I am a perfectionist, I still have a long way to go before I dare do a portrait of a friend." Truly an objective constructive activity that keeps (a) the mind sharp and (b) "me out of tearooms." The Rowletts came to New York in September to visit a daughter in Maplewood, N.J., visit some art galleries, and "look at tall buildings." Through the work of Jim Evans, a 1916 luncheon was held at the Engineers' Club while Stew was here: those in attendance included Bill Barrett, Jim Evans, Herb Mendelson, Stew himself, Peb Stone, and Bob Wilson (who dropped in for a quick Hello). . . . We understand the Art Caldwells spent September at Sky Top, in the beautiful hills of northern New Jersey. Some say the fall foliage in this area equals that of New Hampshire and Vermont.

We continue indebted to Irv and Kay McDaniel for the amazing accounts of their recent visits to Czechoslovakia, Yugoslavia, Austria, Hungary, Romania, Bulgaria, and Greece. They had over two weeks in Czechoslovakia and concluded that four to seven days is plenty: "Prague is very beautiful but very dirty; no semblance of maintenance. Only three cities with three deluxe hotels have private baths. If the other hotels have private baths the hot water won't run or the cold won't or neither will. When you have a private bath you often don't have a toilet; and when there is no water, brother, we have had it. We now think a private toilet is more important than a private bath. Stay only at the deluxe hotels." As for

Hungary they were thrilled with Budapest, folk dances and 'what music'! In Vienna, they went with friends to the Moulin Rouge. Beforehand, Irv said he had been still blushing from the last time he was there several years ago. "As Katherine said, it wasn't all sex, just every other act. There was a chap there who played the cymbal (Hungarian musical instrument) who was stupendous. That is why I went there." It had been five years since Irv had been in Yugoslavia: "What a change for the better. It has improved 10 times faster than Spain and they give all the credit to Tito. But no one knows what will happen when he dies. The highways are filled with Yugoslavs driving their own cars; new super highways are being built in every direction. . . . And such fruits and vegetables! I have always claimed that California had the best melons (honeydews, Persians, Cranshaws, etc.) and that the best watermelons came from Georgia (my favorite, Stone Mt.). But the melons from Yugoslavia are just a shade better." Their stay in Rumania was very short and unsatisfactory, but the extra time spent in Bulgaria was apparently loaded with high enthusiasm. In Bulgaria "everyone at the border was wonderful, several spoke English. We entered at Kalotina-no inspection, no forms, no money declaration." And Irv tells of "the most marvelous beach in the world on the Black Sea. It is 120 miles long and we entered at the northern end, Golden Sands, and the sand is golden. The Balkan Touriste (government agency) has the entire 120 miles for a depth inland of about a mile. They have built a series of modern hotels that makes the place a fairyland. One day, on the beach, a bus load of peasants came for a day's holiday. They all had borrowed bikinis. ... The bikinis were a joke to all of them and none of them fitted. . . . All of the spectators, except me, took pictures. They were having such clean innocent fun it didn't seem cricket to me. They had more fun in the water and when they came out they took off their bikinis and scoured each other all over with sand. After they dressed and when they were leaving, I took their picture. I am a prude." More McDaniel travels anon!

We have sent copies of one or two of the McDaniel letters out for OPP (other people's pleasure) and what a return of comments! Bob and Pearl Wilson: "We enjoy reading these letters and are very glad the McDaniels are willing to be 'p'oneers' in countries we are not particularly interested in visiting." Stew Row-lett: "Irv should publish his reports. Keep them coming!" Emory Kemp: "A very very interesting letter; I agree with Stew on publication." Dina Coleman: "Very fascinating; I wish I were there!" Don Webster: "What 'vigah' the pair has. Good New Frontier timber for J.F.K. Careful, Don. Hovey Freeman: "Even at my advanced age, I feel I must go to Bulgaria and see what nudists look like. I imagine there are differences that as an M.I.T. engineer I should learn about."

Theron Curtis: "Very interesting; glad they are doing it, not we."

We have a distressing story from Jap Carr. His younger son, Jeff, was killed instantly in a head-on collision about five miles from their home on July 20. The son, who had just finished his freshman year at Wilkes College after a four-year hitch in the Navy, was on his way home with another student when they were hit by a drunken driver who was driving on the wrong side of the road and at high speed. Our deepest sympathies to Jap and Hildegarde. Jap's principal activity is still tennis and in September he ran the fall tournament in Buck Hill Falls, Pa.

Jim Evans supplied us as usual with many letters that resulted from his lively correspondence with '16ers. Will Wylde explained their absence from the reunion by noting that their four-month winter stay in Florida got them home in North Adams well into May, and that a collection of local activities had held them down pretty well after such a long absence. . . . Jim reports that Brad Curtis was in the hospital in Neptune, N.J., in September with a heart condition. He was improving but had not been able to teach his class in Newark College of Engineering, where he has been teaching for seven years since his retirement. In early September, Jim himself was fidgeting, just waiting for school to begin, and now that Paterson, N.J., high school is in full swing, he is keeping busy as a substitute in math, physics, and manual training (he says 'no' to history). He reports a welcome letter from a '16er we have not covered for years in the column, Jack Stafford of Hohokus, N.J. Jack says: "Because of the career that I chose as a sugar engineer, I spent the first 25 or 30 years in Cuba, Puerto Rico, South America, Philippines, Ceylon, etc., so I never got reunion-minded. No doubt I missed a lot of fun but I have had an interesting life."

Rather unexpectedly, Francis and Gladys Stern took off for Europe August 21 on the 'S.S. Independence' on a Mediterreanean cruise which stops at Madeira, Casablanca, Gibraltar, Algeciras, Palma de Majorca and Naples. He wrote: "We plan to spend 10 days in Rome, a week in Florence, five days in Venice and then fly over to Beaulieu on the French Riviera for five days before flying on to London for a week. I'm hoping to meet an English gentleman in London with whom I have corresponded about the Hartford Independent Mail, the stamp I have collected these many years and which developed into a real job of research." Then from Italy, Francis tells what a change he found in Florence since seven years ago: " it is a small city, now completely over-run by traffic. Bus lines have multiplied to keep up with the population explosion, taxis menace life and limb. Inflation has hit Italy; there are no buys any more. Yes, the crafts exist. We have no artisans left at home. Here one still finds handwork of every description and always a new generation to take up the work of the past one."

Now for a bit more of the Second Young Safari Letters from Vertrees and Sylvia Young in their June-July travels, safari, and rock-hunting expedition in the Union of South Africa, South West Africa, and South Rhodesia (comments on their August on the continent, later).

Sylvia's letters are exciting, absorbing, and give a real feeling of what Africa is like. For their safari, they flew from Johannesburg to Windhoek in South West Africa. "This is not to be a hunt like our last one. We want to get only two trophies-one Gemsbok and one Greater Kudu-and we are not going to camp. We are driving in a Land Rover. We have one native with us, a skinner, an Ovampo boy. We will drive to a large farm owned by Mr. Beccker about 300 miles from Windhoek. Basie, our hunter, is a very young and very handsome man. He wears a beard and sideburns. His hair is very black and very silky and he is tanned and fascinating. His wife, Ria, is beautiful-tall and blond and sweet. She is going with us. I love her, already!" Then later, "We started our hunt by driving with Basie, Ria, Eddy (the Ovampo) and Walter, the 14-year-old son of Mr. Becker. We drove, for the second time, over that vast farm, up and down, across velds through river beds, under thorn bushes filled with weave birds' nests-on and on and on. Suddenly, there, over to the right, stood two magnificent Gemsbok-the game Vertrees wanted. Silently, Basie and V.Y. left the jeep, with Eddy beside them. Then the shot and a triumphant shout from Ria 'He got it!' The animal did not fall immediately; they often run quite a ways. The hunters pursued, as is required, in case game has only been injured. Ria and I climbed on top of the jeep to watch but lost sight of the three." But Vert had suffered an eye injury and the safari was cut short. They left at once for Windhoek, a two-day drive, where Vert was hospitalized for a short time but was soon out of all danger. "The Gemsbok was found dead, a trophy specimen which will be shipped to Bogalusa." This particular letter concludes: "The African sun is setting, the air is turning cold. The hush is alive with strange sounds. This is Africa -strange, mysterious, world."

Here's one that Ralph Fletcher, as the boss, insists on: "Here is a story that came across your president's desk a short while ago which tells us a little about what Harold Dodge does besides the tremendous job he is doing as our class secretary (as taken from the Sandia Corporation 'Lab News,' June 7, 1963, issue, Albuquerque, N.M., with the editor's permission): 'I've "lived" in Albuquerque nearly a year, but at no time has my stay here been longer than 10 days,' remarked Harold F. Dodge, a consultant to Sandia's Quality Assurance Organization since 1950. Mr. Dodge contributes knowledge and experience dating back to 1924 when quality assurance was a brand new field. His work with Sandia Corporation in developing a QA program within the AEC-Sandia Corporation agreement includes such activities as methods for setting quality standards, verification inspection procedures, quality evaluations, quality rating systems, and Stockpile Sampling Programs. Most recently he was co-author with A. F. Cone, Manager of Quality Assurance Department 7510, of a technical paper, 'A Cumulative-Results Plan for Small-Sample Inspection,' which was presented

at the 17th annual convention of the American Society for Quality Control held in Chicago. 'I'm excited about this paper because it indicates how the combining of statistics and psychology can aid in improving quality when dealing with sampling of small quantities' he explained. 'When large quantities are available, statistical techniques are normally sufficient.' Mr. Dodge has an S.B. degree in electrical engineering from M.I.T. and an A.M. degree in physics and mathematics from Columbia University. He joined the Bell Telephone System as a development engineer at Western Electric, New York, in 1917 and worked until 1924 in development of submarine detectors, telephone instruments, electrical stethoscopes, sound ranging detectors, and acoustic devices. He holds patents on four items invented during that period including one telephone part which was in use over 25 years. When Bell Telephone Laboratories Inspection Engineering began work on quality assurance, Mr. Dodge transferred. They discovered I made pretty charts,' he joked. For the next 33 years, Mr. Dodge worked in the QA field, his specialty being sampling inspection plans and quality rating systems. During World War II, he served as a consultant to the Secretary of War on quality control and sampling procedures. He was one of the small group that developed the Army Ordnance Standard Sampling Inspection Tables and Procedures used throughout the war and later serving as the basis for present military standards for attributes sampling. He was co-author with Harry G. Romig, in 1944, of the book 'Sampling Inspection Tables,' which has appeared in Swedish and Japanese translations and appeared in a new edition in 1959. Since his retirement from the Bell Laboratories in 1958, Mr. Dodge has been a professor of applied and mathematical statistics at Rutgers, the State University of New Jersey, and has served as a consultant to the National Aeronautics and Space Administration, and others. "One thing we can say,' he remarked, 'statistical methods as used in quality programs are universal in application-everything from mouse traps to space capsule components.' A great story, Harold, and don't you cut out one bit of it."

Dina Coleman, in Lexington, Ky., sends a friendly note: "For the past six months I have been working on a business deal which I hope will allow me to do more work from now on. All of the papers have been signed and the earnest money paid, so that's that." He speaks of Transylvania College, whose financial program he heads, as "still growing without any Federal aid and (it) has built some \$4 million worth of educational and dormitory buildings in the last five years." Further, regarding the Fayette County Schools: "Our board has had a tough time housing its students. I don't know where the money is coming from for the next 1,200 kids because we are still opposed to Federal Aid in our district." Nice going, Dina! . . . The first of the 1916 New York fall luncheons was held in the Chemists' Club (luncheon home of the Technology Club of MidTown New York), 52 East 41st Street, jointly with the Class of 1917. Those present included Messrs. Aldrich, Curtis, Flaherty, Littlefield, Lowengard, Neuberg, Proctor, and Sullivan of 1917, and Messrs. Binger, Dodge, Evans, Gruber, Hunter, Mendelson, and Stone of 1916. It is planned to hold these luncheons monthly as in the past, on the Thursday following the first Monday. So, '16ers, plan your next trip to New York for December 5, January 9, or February 6.

Ralph and Sibyl Fletcher were headed for Spain on October 20; we didn't find out why. . . . Steve Brophy has an important assignment for the 1964 World's Fair and Duncan Owler reports all is well. We have items from Dick Berger, Joe Barker, Obie Pyle, and Ed Weissbach to report next time. This completes the column for the present. Just keep the paragraphs coming in; write a little, but often. If you know of any '16er who is ill, one who should receive letters or cards, let Ralph, or Jim Evans, or your secretary know.-Harold F. Dodge, Secretary, 96 Briarcliff Road, Mountain Lakes, N.J.

17

As these notes are read, the tempo of Christmas events will be increasing. Your class officers extend hearty holiday greetings to all 1917ers and their families. We are now well on the way to our 50th Reunion in 1967. . . . During early October you received a note from the class secretary asking you to share your vacation or holiday experiences with classmates through the class notes. Last month your class treasurer told about the pleasures of a trip down the Mississippi. This month we will start the ball rolling by recording some similar experiences. . . . First Dix and Vi Proctor stepped aboard a Holland American freighter in New York in early summer, bound for Antwerp, but, as freighters change their mind occasionally, they landed at Rotterdam. Their journey took them through Holland, Belgium, Germany, Denmark, Sweden, Finland up to the Arctic Circle, Norway and its fjords to Bergen and way stations to Oslo and Goteborg. They picked up a Swedish Transatlantic Line freighter and landed back home at Bush Terminal, Brooklyn. Next May they are booked for Japan and various ports in Korea, Formosa, etc. . . Ken Bell gets around the world in his consulting capacity as indicated by the following: "We had a splendid winter in Peru, the most rewarding trip of this sort (professionally) that I have made. The Peruvians are educated, intelligent, and, unlike men in many undeveloped countries, can make decisions and take action. We visited Mexico, Guatemala and Panama on the way down, and Chile, the Argentine, Uruguay and Brazil returning. We called on John Holton's daughter in Rio. Her husband is pastor of the Union Church there. We had the family with us from July 3 to August 16 and over Labor Day. With from seven to twelve of us present, it is strenuous."

(Editor's note: So say all grandparents.)

The American Society of Mechanical Engineers released the following: "William H. McAdams, Newton, Mass., has been named to receive the Max Jacob Memorial Award for his outstanding contributions in the field of heat transfer. The award, given jointly by the American Society of Mechanical Engineers and the American Institute of Chemical Engineers, will be presented by A.S.M.E. President Ronald B. Smith, August 13, at a luncheon session of the National Heat Transfer Conference in Boston. Dr. McAdams' achievements in heat transfer research include the initiation of the first effective, continuing American program of experimental research on heat transfer by convection. His book, "Heat Transmission,' an evaluation and analysis of research results, has been hailed as an engineering classic. He is also co-author of another volume, 'Principles of Chemi-cal Engineering.' Honors and awards given to Dr. McAdams in the past include the Presidential Certificate of Merit, the William H. Walker Award, A.I.Ch .-E.'s Founders Award, A.S.M.E.'s Worcester Reed Warner Gold Medal, and the Gold Medal from the Institute Français des Combustibles et de l'Energie. He was awarded the B.S., M.S., and D.Sc. degrees by the University of Kentucky and the M.S. degree in Chemical Engineering from M.I.T."

John H. Babbitt, who resides in Indianapolis, was chosen to represent M.I.T. at the inauguration of William Edward Kerstetter as the 16th president of DePauw University in Greencastle, Ind., on October 12, 1963. . . . Notice has been received of the death of Ainsley C. McCurdy Course VI. The last known address for McCurdy was Los Angeles, Calif. No details of his career are available. . . . Donald O. Friend, who attended Course X, died at his home in Intervale, N.H., on September 29. Ken Bell attended the memorial service with Mrs. Bell. The news article stated that Donald was a retired audio engineer; he died at the age of 70. During World War I he worked in French munitions and in World War II was the civilian head of production and procurement of electronics for the Army Signal Corps. He was a native of Brooklyn, N.Y., and a member of Beta Delta Chi fraternity and the Engineers Club of Boston.

Two events are of interest to 1917ers who occasionally get to New York City. One is the opening of The M.I.T. Alumni Center at 345 East 47th Street, and the other is the new facilities for the Tech Club of New York. The M.I.T. Club of New York quarters at the Biltmore Hotel were vacated May 31, and arrangements were made with the Chemists' Club, 52 East 41st Street for the use of their dining room and the limited use of their other facilities by the Tech Club. Dix Proctor, who has M.C.'d the monthly class luncheons, advises that beginning October 10, the 1917 class luncheons will be held in a special room at the Chemists' Club on Thursday of the first full week of each month. Since no cash transactions are permitted in the club, non-members of the club can arrange with one of the club members present to handle the charge through his account. Visiting 1917ers are welcome at the class luncheons. The club also has an M.I.T. luncheon table reserved each day.

Ray Brooks and Dix Proctor represented the class at the first meeting of the M.I.T. Club of Northern New Jersey. They listened to a most interesting talk by Colonel Bernt Balchen on his experiences in the Norwegian Underground during World War II. . . . Four 1917ers attended the dedication of the M.I.T. Alumni Center in New York: Joe Littlefield, Ed Aldrin, Benjamin Levy, and Dix Proctor. . . . Mrs. H. E. Lobdell, affectionately known to many of us as Conchita, spent about three weeks in and around Boston and Cambridge this September, making arrangements for the moving of her household goods to Mexico City where her address will be: Sra. C. Zambrano de Lobdell, San Carlos 86, Mexico 20, D.F. In mid-September Al and Sue Lunn had a small dinner party at the Country Club for Conchita with a half dozen others of our class. On her way back to Mexico, she spent some time with Mrs. Carol Brooks at the Brooks'

farm in Virginia. Alaska claimed the attention of the McNeills for about three weeks this summer. It is the last United States frontier and a country crying for development. Alaska is one fifth the size of continental U.S. and twice as big as Texas (apologies to our Texas classmates). The Bering Sea is named after Vitus Bering, a Danish sea captain who was commissioned by Peter the Great in 1728 to prove that America was not a part of Asia. Alaska was sold to the U.S. by Russia in 1867 for \$7,200,-000. It is as far west as Hawaii. Temperatures in Fairbanks vary from a hot 70-90 degrees in summer to as low as 75 degrees below zero in winter. The trip began in Seattle, with 21 people from various parts of the U.S.A. We went by boat to Victoria and Vancouver where the group boarded the 'Glacier Queen' (120 passengers) for a three-day cruise through the Inside Passage, past tiny villages and lumber camps to Ketchikan, Alaska's southernmost city. Ketchikan, the salmon center of Alaska, shares its economy with the lumber industry. After an evening at Ketchikan the boat proceeded to Juneau, the capital of Alaska, a city of about 10,000. A "must" for an evening is a visit to the Red Dog Saloon, which perpetuates, in a polite way, the gold rush days of 1898. From Juneau, amphibian planes with eight passenger capacity flew us over the 1,000-square-mile Juneau ice cap for a spectacular 20-30 minute flight over mountains and glaciers to the Taku Glacier Lodge. Here we were treated to rides in flatbottom outboard motor boats on the Taku river close to several glaciers. Here also one can try his luck at Salmon fishing. Another flight over glaciers, mountains and fjords brought us to Skagway, the jumping off place for a trip to the Yukon via the narrow gauge White Pass and Yukon Railroad, which climbs about 3,000 feet to Lake Bennett over the route followed by the 1898 goldminers; the miners climbed the pass in winter on foot with all their luggage.

Lunch was served at the Lake Bennett Railroad station with moose meat as the piéce de résistance. The train ride ends at Whitehorse. From there we boarded a bus for a 600-mile trip up the Alaskan Highway to Fairbanks with a stopover at the Alaska border. (The highway starts at Dawson Creek, B.C., and extends 1,500 miles to Fairbanks. It was built in nine months by the U.S. Army during World War II.) The trip continued from Fairbanks by plane to Nome and then across the Arctic Circle to Kotzebue. Both Nome and Kotzebue are Eskimo headquarters serving in the summer as trading posts for articles carved from walrus tusk ivory. Huskies abound; they get one half salmon per day in summer and a whole salmon in winter when they are working. Nome and Kotzebue are in the tundra and permafrost area where the ground is solid ice in summer a foot or two below the surface. This complicates construction problems. Three ships a year bring in the heavy goods, other materials coming in regularly by plane. Reindeer meat and delicious fish were served during our stay. After returning to Fairbanks, the next stop is Mount McKinley National Park. Here we took a bus at 4:00 A.M. for a 160-mile ride through the park wilderness. Moose, caribou, grizzly bears and dall sheep were in evidence along the route. A clear day offered a number of beautiful views of the Mt. McKinley Range. Mt. McKinley, approximately 21,000 feet high, is completely covered with snow. Anchorage, the Matanuska valley farms with kingsized vegetables, Indian villages, and a plane ride back to Seattle completed the trip. You don't have to travel to Europe to see wild and beauiful sights.-W. I. McNeill, Secretary, 107 Wood Pond Road, West Hartford, Conn.; C. D. Proctor, Assistant Secretary, P.O. Box 336, Lincoln Park, N.J.

'18

As these notes fret over a sentence here and there which seems askew, the Dodgers have just skunked the Yankees in a carefully crafted and wonderfully satisfying World Series. Since our last report dealt exclusively with the joys of the 45th Reunion, this release should commence with the 1918 line-up on Alumni Day last June. Present were: Eli Berman, Samuel V. and Mrs. Chamberlain, Daniel Cushing, Saxton W. and Mrs. Fletcher, Clarence C. Fuller, Donald C. and Mrs. Goss, Alfred P. and Mrs. Grossman, Alan F. Howard, Giles D. Hulseman, John W. and Mrs. Kilduff, Harry C. and Mrs. LeVine, Gretchen A. Palmer, Edwin F. and Mrs. Rossman, Albert F. Sawyer, Max and Mrs. Seltzer, Carlton E. Tucker, Theodore P. Wright, J. Edward Longley, Theodore Braaten, Thomas P. and Mrs. Kelly.

Just to reassure you that the class is served by a remarkable battery, **Pete** (Alan) Sanger has been in there pitching for our interim gathering of the brotherhood in 1965. For the occasion he has signed up the Wianno Club at Osterville,

for June 11 to 13. Batter up! We have some delightful moments to look forward to and to relive again. One of the brethren had such a good time there last June he has already volunteered to donate a whole cocktail party in gratitude and remembrance. Looking backward for a moment, Pete Sanger writes: "I was glad to do what I could to make the reunion a success. It warmed my heart to feel that the boys and girls voted the club and its appointments so satisfactory. You classmates did much too much in giving me that wallet." (Like ducks we did!) "It made me think of the familiar second chapter of Virgil's Aeniad, 'Obstipui steteruntque comae et vox fancetrus haesit.' My Latin is many years behind me, but I think that is substantially correct. and it certainly expresses my feelings."

Under date of June 23 a letter from John Kilduff brings news that Frank Kanaly, our old instructor in physical training, has played in his last ball game. "At the moment," says Johnny, "I am in the mood of Mark Anthony when he testified, 'He was my friend, faithful and just unto me.' But a few moments ago I came back from Frank's bier. He died Friday night (June 21) in his sleep. You will remember that I worked three years as his assistant during our college days. Subsequently we both worked with the Army and the Navy Air Corps as physical training instructors. Through all the years after our class left, and until the beginning of World War II, Frank was a daily visitor at the factory, waiting patiently until after quitting time so I could go for a swim with him at Rye Beach. During these outings we lost as much as three pounds apiece in throwing the 16 pound shot, jumping, swimming, and working up a good sweat. That same evening we would put it all back again with a monstrous big meal. During his best days Frank held the world championship for the half mile, the mile, and the 10-mile run in the professional class. Better still, he had an integrity few people had the opportunity to fathom. I never knew him to lie, cheat, or make any decision which was not fair to everyone. This meant he was no diplomat. Sometimes his honesty caused him trouble, but his determination to uphold what to him was the naked, unvarnished truth, would not falter. After he had to retire for age, he had a job checking blueprints for National Research. He would raise the roof and all floors under it whenever he found an engineer making a careless mistake in arithmetic. During the last two years he failed rapidly because of arthritis. His passing at age 82 was a blessed relief because of the physical suffering he had to bear. I could write a book about that magnificent man.'

Clippings are at hand concerning the innings Bill Foster has been scoring in his game with the Russians. We have pretty well covered these in previous dispatches, and trust he finds satisfaction in a treaty he surely laid the ground work for. . . A clipping from Buffalo, N.Y., reports on Gretchen's activities at her home plate, namely St. Andrew's Church, where she entertained the congregation

by trying to cop the pennant with a lecture on her trip to Hawaii. . . . According to my records, since 1948, 93 of us have gone to bat for the last time. To their number must now be added Jose Pasos-Diaz of Caracas, Venezuela. He was called by the Great Umpire on June 20. Edward H. McLaughlin (not to be confused with George Edward), concerning whom I have no further information, and Clifford S. Read, who died on August 21, have also been called.—F. Alexander Magoun, Secretary, Jaffrey, N.H.

19

Ezzie Paterson will retire this coming December. This past spring he and his wife spent an enjoyable five weeks in Europe. Ezzie was invited to give a paper on "Reliability," in Nuremburg, which he presented "auf Deutsch." He also had an article, "Assuring Quality," in the September, 1963, issue of "International Science and Technology." . . . 1919 men at the M.I.T. New York Alumni Center opening party on September 26 were Larry Riegel, Marshall Balfour, Jim Strobridge, Lester Wolfe, Ted Shedllovsky, and Gene Smoley. . . . Edward A. Richardson is retired but still lives at 31 East Church Street, Bethlehem, Pa. He is the treasurer of the Unitarian Church of Lehigh Valley. . . . Change of address: Richard F. Cashin, from Calumet City, Ill., to 949 N. Lombard Ave., Oak Park, Ill. . . . We hope everyone is looking forward to our 45th Reunion next June. Will Langille and Don Way are working on plans and will soon be sending out notices about when, where and how.-Eugene R. Smoley, Secretary, 30 School Lane, Scarsdale, N.Y.

20

Our class has suffered the loss of two of its beloved and respected stalwarts. Henry Russell (Bunt) Murphy died September 1 in New York City, and Bill Barron died September 20, also in New York City. As these notes have previously recorded, Bunt Murphy had a distinguished and valuable career as an educator and administrator in the field of helping less fortunate youth, both abroad and in this country. More recently, he worked for the elderly in New York City. He was one of those unselfish, hard working individuals whose deeds have spoken more loudly than words and who will be gratefully remembered and honored by hundreds.

Ken Page is now in Longmeadow, Mass., address: 68 Duxbury Lane. . . . Art Dopmeyer is in Houston, Texas, address, 7525 Park Place Boulevard. . . . Phil Bryne and his wife—Phil having just retired—are planning a trip to Hong Kong. . . Warren Chaffin is another recent retiree. . . Stan Reynolds was married earlier this year to Mrs. Henry Graham Martin and his home is at 425 East 86th Street, New York City. Congratulations, Stan! . . Your secretary retired on

October 1, but may still be contacted at his Winchester home, Telephone PArkview 9-1282.—Harold Bugbee, Secretary, 21 Everell Road, Winchester, Mass.

21

Your secretary has just returned to work after the interruption reported last month and is trying to pick up the threads of various activities where they, too, were temporarily suspended. We sincerely appreciate the many notes and communications from various members of the Class of '21 and ask that you be patient if your news is a little slow getting into print. . . Alumni Day, 1963, billed as covering various aspects of "Exploding Technology and Student Perspective," must have been all of that and more, from the enthusiastic reports of numerous attenders. Our class was represented by a contingent totaling 58, comprising 33 members of 1921, 24 of whom brought their wives and one whose guest was his daughter. As usual, it was good to welcome the staunch group who never miss the occasion and to have a number of others whom we would like to see more often. Those present included: Mich Bawden, Dayton and Mrs. Brown, Ed and Mrs. Delany, Chick and Maida Dubé, Ed and Helen Farrand, Harty Flemming, Jack and Mrs. Giles, Harry and Sarah Goodman, Bob and Mrs. Haskel, Sumner and Betty Hayward, Jack and Mrs. Healy, Irv and Ruth Jakobson, Mel and Anne Jenney, Algot Johnson, Phil Johnson, Chick and Laurie Kurth, Leon and Mrs. Lloyd, Ed and Mrs. MacDonald, Dick McKay, Bob Miller, Don and Elizabeth Morse, Phil Nelles and his daughter, Pat Nelles Oram, Leo and Vivian Pelkus, Larc Randall, Harry and Mrs. Rosenfield, Paul and Mrs. Rutherford, Steve and Mrs. Seampos Saul and Rigi Silverstein, Ted Steffian, Bill and Anne Wald, Al and Mrs. Wechsler, and Frank and Mrs. Whelan.

Sumner Hayward has dutifully listed the 1921 men who attended the New York Victory Dinner last May, in celebration of the successful conclusion of the Second Century Fund. One of the four ministers in our class, the Reverend Samuel H. Miller, Dean of the Harvard Divinity School, gave the invocation. Others present included Ollie Bardes, Jack Barriger, Chick Dubé, Ben Fisher, Phil Hatch, Sumner Hayward, Irv Jakobson, Gus Kinzel, Leon Lloyd, Warrie Norton, Paul Rutherford, Ray St. Laurent, Bob Waterman, Joe Wenick and Dick Windisch. . . . Bob Miller's youngest daughter was graduated from high school last June. That lovely family is growing up; next Bob will have to fit Alumni Day into various graduations of the grandchildren. . . . Paul and Mrs. Rutherford arrived in Cambridge from her Wellesley reunion. . . . The M.I.T. Alumni Center in New York was auspiciously opened in September, with 1921 represented by Joe Wenick, Abba Orlinger, Irv Jakobson, Sumner Hayward and Cac Clarke. . . . Henri Pell Junod, Vice-president and director of Interlake Steamship Company since 1959, has been elected to the newly

created post of executive vice-president. Interlake is a bulk carrier of iron ore, coal and limestone and the second largest American flag fleet on the Great Lakes. Harry is also executive vice-president and director of Pickands Mather and Company of Cleveland, and a member of its executive committee.

Theodore A. McArn reports a move from Worcester, Mass., to his Cheraw, S.C., where he makes his home at 700 Market Street. . . . Donald B. McGuire, formerly of Middletown, N.Y., says he now lives on Freeman Lane in East Brewster, Mass., and can be reached there at P.O. Box 126. Retirement, Don? . . . Edward W. Noyes has returned north to R.D. No. 2, Thompson, Pa., from Pompano Beach, Fla. . . . Lieutenant Colonel William D. Morrison is now stationed in Florida, where he lives at 6 Mag Circle, Star Lake, Warrington. . . . Even if these notes be short, please continue to write your news to your secretaries. We will catch up soon. In the meantime, all of your class officers and committee chairmen join in wishing you and yours the finest Holiday Greetings and the best of everything in the New Year.—Carole A. Clarke, Secretary, c/o I.T.T. Data and Information Systems Division, Route 17 and Garden State Parkway, Paramus, N.J.: Edward T. Steffian, Assistant Secretary, c/o Edwin T. Steffian and Associates, 376 Boylston Street, Boston 16, Mass.

'22

Your secretary has one foot on the step of an airplane to Los Angeles because two tickets have suddenly become available for the World Series. Perhaps others were there who are friends of the Yankees. . . . The list of Alumni benefactions indicates a really high number of \$147,800 for the Class of '22, slightly better than the next class and a great deal better than most classes. The annual Alumni Fund is getting back into real activity and so is our class organization. . . . George Dandrow is pictured as a former U. S. Olympic Team member in the official program of the U.S. A. Track and Field championships of the Amateur Athletic Union under the listing for the Hammer Throw. He was given special mention in the St. Louis-Globe-Democrat as chief judge of the event held in June. . . . Crawford H. Greenewalt has been elected to the executive committee of the Carnegie Institution in Washington. The board of directors consists of 24 persons representing science and technology, professional fields, business, and finance. The Carnegie Institution of Washington was founded in January, 1902, by Andrew Carnegie "to encourage, in the broadest and most liberal manner, investigation, research, and discovery and the application of knowledge to the improvement of mankind." It is an operating research organization and maintains six research centers in various parts of the country. Crawford was also elected to the board of directors of Morgan Guaranty Trust Company of New York last April.

Your secretary met President Parke Appel and Bob Tonon at the Alumni Fund Conference in September. Parke had charge of one of the informative and inspiring sessions. His good news was that Ab Johnson was making good progress after some difficult experiences in the hospital. The best of good wishes are extended to Ab. The sympathy of our class is extended to the family of W. C. Gilman, former president of Florida Power Corporation of St. Petersburg Beach. He had held executive positions with General Electric, Central Hudson Gas and Electric, Carolina Power and Light, and the Equitable Life Assurance Society of New York. He was a member of the St. Petersburg Yacht Club and the University Club of New York City. We also extend our sincere sympathy to the families of William T. Dunlap, Jr., William F. Driscoll, and Carl W. Harris. . . . Among the new addresses received are Sidney Biddell, Los Angeles, John Vaupel, 43 Lincoln Street, Belmont, Mass.; William Luytes, St. Louis; Roger Carver, 2061 Church Street, Decatur, Ga.: Saul Copellman, Brookline; Earl Heitschmidt, 3300 Temple Street, Los Angeles; Hector Lopez, 224 Orchard Drive, Mt. Lebanon, Pa.-Whitworth Ferguson, Secretary, 333 Ellicott Street, Buffalo, N.Y.; Oscar Horovitz, Assistant Secretary, 33 Island Street, Boston, Mass.

23

tonio Express of June 26. "While Mr. and Mrs. Beretta were in Boston attending his 40th class reunion, Skip was attending graduation exercises at Williams College in Williamstown, Mass. He was graduated from the college. After a visit in Cape Cod and New York City, Mr. and Mrs. Beretta and Skip returned home. Skip will resume his studies of law in the fall. His sister Austin (Sissy) Rutherford will be a junior student at U.T. this fall. She belongs to Kappa Kappa Gamma sorority.' . . Olcott L. Hopper, Chief Hydraulic Engineer for Stone and Webster Engineering Corporation, who knows Quoddy from both sides of the channel, government and private interests, is now in the news again relative to its economic pros and cons. . . . Howard B. Keppel's new address: 3200 N.E. 36th Street, Fort Lauderdale, Fla. . . . Leonard Lyons reported in the New York Post of August 9, that Alfred Perlman. President of the New York Central, and Mrs. Perlman have been on a very interesting cruise to Africa via Monte Carlo, his first real vacation in many years. . . . We are grateful to C. H. R. Johnson, '21, who has sent us an additional news clipping about the death in Japan of Walter S. Marder. There was a picture of the crash site marker in the Monroe (Mich.) Evening News, August 28, which reported: "A marker with a Japanese inscription has been placed by thoughtful Japanese in tribute to Walter S. Marder of 909 Hollywood Drive at the site of the airplane

"It was a fun-filled seven-day trip East

for Mr. and Mrs. Jack Berretta and their

son Skip Rutherford," reports the San An-

crash which took his life and the lives of 10 Japanese in the plane. Mrs. Marder said the marker is another example of the courtesy and kindness extended by the Japanese people to a person they did not know. The picture of the marker came to her through the American consul general at Kobe, Japan. An accompanying letter said: 'We are the headmen of the town of Nado-Yoshino, Natan-Cho, Miha-ra-gun, Hyogo Ken, where the aircraft 'Tsubame Go' of the Nitto Airlines Company crashed May 1, 1963. This is the 100th day after the date of that crash in which Mr. Walter S. Marder was killed. We and our townspeople have erected a small monument at the site of the accident and we have also, in keeping with the custom of our district, put up a hanging lantern for the repose of the soul of the late Mr. Marder.' It was signed by Akio Yamasaki, headman, and Kyoji Yamasaki, dep-

Further evidence of the unassuming kindnesses shown Mrs. Marder was in letters she received from Japan. One was from the Rev. W. P. Boyle, a Presbyterian missionary at Tokushima City, who spoke the brief words at the site of the crash at services for Mr. Marder. Buddhist priests conducted the rites for the Japanese victims. Another was from G. H. Thener, missionary of another faith at Osaka, who served as her interpreter, through all the necessary interviews and discus-

sions of arrangements.

The Journal of Occupational Medicine for May, 1963, reports that the Knudsen Award, the highest honor paid to an individual in the field of industrial medicine, was conferred upon Dr. W. Daggett Norwood. Dr. William P. Shepard, chairman of the award committee,, said in making the award that: "The colleague whom we honor tonight must have felt the nudge of destiny when he finished his engineering course with a master's degree at M.I.T. and turned to the study of medicine. How could he have known in the early 1930's that a new specialty, nuclear medicine, was to be born? Or did he know? In any event the rarified air of Cambridge apparently weaned him from his native South Carolina, and the cooler air of Canada attracted him to McGill where he received his M.D. in 1935, interned at Montreal General Hospital, then became a resident in pediatrics at Lankenau Hospital in Philadelphia. Perhaps to escape the ailing infants and the wailing mothers, he turned to industry and began his lifelong career in occupational health in various chemical plants owned by the Du Pont Company. Thus, at a fairly early age, his name was added to a roster of illustrious industrial physicians who have served, and still serve, that fabulous company. When Du Pont accepted responsibility for the operation of the first atomic reactor at Oak Ridge and for Hanford Engineer Works, our award winner entered a course of training in nuclear medicine at the University of Chicago and at Oak Ridge to prepare himself for medical service in the, then, entirely new atomic energy field. After the war, the General Electric Company accepted management of the Hanford Works and the name was changed to

Hanford Atomic Products Corporation where he remained. His present title is Manager, Occupational Health Operation. . . . He is (also) Chief of the Industrial Medical Service at Kadlee Methodist Hospital in Richland and is consultant, occupational health, for General Electric's West Coast Operations.

"We honor and thank you," the speaker continued, "for your generous services to the Industrial Medical Association; your help in founding, and your subsequent presidency of the Northwest Association of Occupational Medicine; your service on various committees of the Atomic Energy Commission; membership on the Council on Occupational Health of the American Medical Association; your help to American Standards Association; the National Committee on Radiation Protection and Measurements; the Washington State Medical Association; your presidency of the Benton-Franklin Counties Medical Society; and last but not least your presidency of the Richland Rod and Gun Club and Rose Society. We wish also to congratulate your wife, Mrs. Helen Norwood, whose co-partnership is in no small measure responsible for your accomplishments, and your son Donald, whose mathematical genius may one day supplement yours." Dr. Norwood received a standing ovation and a bouquet of roses was presented to his wife.-Forrest F. Lange, Secretary, 1196 Woodbury Avenue, Portsmouth, N.H.; Bertrand A. McKittrick, Assistant Secretary, Fletcher Street, Lowell, Mass.

24

Last month we reported the retirement of Dick Shea, but don't take "retirement" literally. It merely means he has left G.E. For some years his title there has been consultant. He is still a consultant, but now working for Richard F. Shea. Dick stopped by recently to report that he has already been retained by a couple of very important outfits with more in prospect. His main concern seems to be that things may get out of hand. He is not looking forward to a 60-hour work week. . . . We just learned that our retirer of last spring, Paul Cardinal, had a very nice departure present from some of his old pals. He and Lorene spent a week in Bermuda at their expense. Paul gathered another honor when St. Edward's University in Austin, Texas, awarded him its Coronat Medal whose Latin inscription means "one's life crowns one's training." . . . Early in October your secretary lunched at the Lawyers' Club in New York with Gordon Billard, Bill MacCallum, Nate Schooler and Griff Crafts. Subject under discussion: our 40-Year Reunion Gift. Undoubtedly you will have heard all about it before you read this column.

Hoyt C. Hottel, professor of fuel engineering at M.I.T., was one of 34 scientists and engineers honored this year by election to the National Academy of Sciences. . . Clarke Williams has been honored in a different way. Clarke, who is deputy director of the Brookhaven National Laboratory, was named president

of the American Nuclear Society in June.
... And last summer Vincent E. Lysaght was elected a vice-president of American Chain and Cable Company, of New York. He had previously been the company's general sales manager.
... A news feature headline caught our eye: "Poor John Fitch—The Great American Failure." Obviously it was not our John Fitch, but an earlier namesake who invented the steamboat. That was in 1787, 20 years before Robert Fulton's much better publicized affair. Did you know that? Reading these columns is an educational experience.

Our sympathy goes to B. Alden Cushman on the death of his wife, Elizabeth, in late September. Mrs. Cushman had been active in community affairs in the Darien-Stamford area, especially the Y.W.C.A., of which she had been president from 1959 to 1961. . . . May I enter a plea for those of you who are kind enough to send your secretary Christmas cards to add a newsworthy note? It will be most helpful. And may I wish all of you the very best of holidays from your class officers.—Henry B. Kane, secretary, Room 1-272, M.I.T., Cambridge 39.

25

Thanks to telephone calls, newspaper clippings and post cards, a number of items concerning classmates have been gleaned during the last month. Ave Stanton reported that the M.I.T. Beta Upsilon chapter of Beta Theta Pi observed its 50th anniversary on September 21, 1963. Ave and Don Tabor represented the Class of '25. . . . The Boston Herald on October 2 carried the information that Maurice T. Freeman had been promoted to the presidency of Loomis, Sayles and Company. Maurice was formerly the executive vice-president of that organization. . . . A letter to M.I.T. from the director of the U.S. Office of Information Services noted that Russell C. Mader had been promoted to group head in the new General Engineering and Industrial Arts operation in the U.S. Patent Office. In announcing this promotion, the following citation was given: "For demonstrated ability and outstanding competence in the performance of official duties in the patent office." . . . A post card from Honolulu carried the news that Tony Lauria has been visiting the Hawaiian Islands and having an enjoyable time there. He had covered the Island of Oahu by car and was planning to visit the Islands of Kauai and Maui.

An article in the Worcester Telegram some weeks ago described the Webster Spring Company, whose gross sales approached the \$3 million mark last year. The company manufactures springs for beds, chairs and industrial use. The article goes on to say: "A spring that you can feel when you sit down is a failure; one that you can hear is a disaster." According to the owner and founder, Mac Levine, there are few failures and disasters in his company's record. As a matter of fact, the headline covering this article reads: "Inconspicuous Oxford Firm

Thrives on Silent Springs." Most of you will be hearing from Mac during the future months because, you will recall, he is co-chairman with **Sam Spiker** for our 40th Reunion Gift. Others in the class are active in planning for the 40th Reunion which you are going to be asked to record on your calendar each month from now until June, 1965!

Several months ago, Dave Goldman, who is the chairman of the reunion community, invited Ed Kussmaul, Fred Greer and yours truly to play golf at the Spring Valley Country Club in Sharon, Mass. We considered this an official meeting of the Reunion Committee, but all enjoyed playing golf on Dave's beautiful course, even though it was probably the hottest day of the summer of 1963. Some of the golfers were equally hot! (This can be interpreted any way you desire!) . . . It is my sad duty to announce the death of George L. Parker, Jr., in Arlington, Mass., on April 18, 1963.-F. L. Foster, Secretary, Room 5-105, M.I.T., Cambridge 39, Mass.

26

This Sunday morning is beautiful at Pigeon Cove with some heavy swells, probably initiated by Hurricane Flora, churning against the rocky shore below. About a mile and a half offshore is a protruding rock ledge, known as the Dry Salvages with the second "a" pronounced as in day. Today we can see huge waves breaking beautifully out there but a couple of weeks ago when we arrived on Saturday there was much excitement at Salvages. A half dozen Navy boats were on the horizon and, reaching for the binoculars, we noted one was listing badly and apparently had grounded on Salvages. Knowing that Paul Woodbury, '27, had a short wave radio we went right over to his house and listened in while watching through the glasses. This was on Saturday afternoon and the ship, a minesweeper, had gone aground about 1 A.M. Saturday. Meanwhile, a northeast storm was whipping up, making things rough. By Sunday morning it was decided to take all personnel off, and we heard them calling for a helicopter and a surf boatthen within minutes saw both heading for the wreck. The Coast Guard rescued the men but attempts to pull the minesweeper off had to be delayed. During the week the newspapers told of continued efforts. The following Saturday as we came down the highway approaching Cape Ann we saw smoke billowing high in the sky from what appeared to be the direction of Pigeon Cove. It looked like a forest fire. It turned out to be the minesweeper, so again we got out the binoculars and checked Paul's short wave radio. It had become impossible to move the minesweeper and since it was wood the decision had been made to burn it. The Sunday newspaper said, "The Navy set off a \$1,000,000 bonfire Saturday on a rocky ledge a mile and a half off Cape Ann. Ablaze was the 136-foot Minesweeper Grouse which had been grounded on Little Salvage Reef a week before with five officers and 30 enlisted men aboard. The stranded men were freed without harm, but a week-long effort to dislodge the ship from the shelf failed and it was ordered destroyed." We won't go into further detail but it was exciting. There is always something going on in our front yard.

Now back to the news: Our first item comes from Jim Killian: "Dear George. I've just had a visit from Dr. Gregorio Zara, from the Philippines, a member of the Class of '26. He was here with his daughter, who is an M.D., and they were visiting various educational institutions and attending the Centennial of the National Academy of Sciences in Washington. He left with me the enclosed magazine with a sketch of himself on page 14. You may find this information of use in your class notes. Sincerely, Jim." The magazine referred to is the Philippine "Science Review" and the event of the story was Zara's appointment as technical head of the Philippine National Science Development Board. The two-page biographical sketch is difficult to condense because there have been so many Zara accomplishments and honors over the years-20 academic honors in 25 years. He married Miss Philippines of 1933 and has four children, all with academic leanings and several degrees already. It was nice to hear about Gregario Zara after all these years.

We regret to have to report the death of Jim Dunham. A news release from his company told us: "James Webb Dunham, President of Chemetron Corporation, died September 8 at Passavant Memorial Hospital, Chicago, after a short illness. He was a resident of Winnetka, Ill., and is survived by his wife, Genevieve Clabaugh, and children, James Keith, Diana C. and Carole D., also by a brother, William J. of Tucson, and by his mother, Mrs. Jennie P. Dunham of Evanston. Mr. Dunham was born at Danvers, Mass., May 14, 1905, and attended school in Brookline, Mass. In 1926 he graduated with a degree in chemical engineering from M.I.T. Soon after graduation from college he joined the Keith Dunham Company, founded by his father, M. Keith Dunham, and served as an engineer in the construction of oxygen-producing plants. In 1933 that company consolidated its holdings into what became National Cylinder Gas Company, which changed its name to Chemetron Corporation. Mr. Dunham was elected president of Chemetron Corporation in May, 1960, and continued to serve as chairman of the finance committee. Chemetron, which produces a wide variety of industrial products, has more than 100 plants in the U.S. and has operations in eight foreign countries." For the class your secretary extends sincere sympathy to the family of Jim Dunham. . . . We have a note from Don Severance, '38, that Ted Mangelsdorf has been named executive vicepresident of Texaco. We hope more details will be coming along shortly-meanwhile-congratulations, Ted! . . . Having been interrupted this morning, we are finishing the notes back in town, and since we are scheduled on a very early morning flight it would seem to be a good judgment to try for a bit of sleep. But we cannot close without calling to your attention that Jim Killian sends us class notes. Do you? A very happy holiday season to all!—George Warren Smith, Secretary, E. I. Du Pont Company, 140 Federal Street, Boston, Mass.

27

Dice Coburn, Director of Purchases for Colorado Fuel and Iron, headed the Pueblo, Colo., Y.M.C.A. drive to raise \$750,000 for new buildings. Everybody now calls him Jim, which sounds pretty unfamiliar to us. . . . Did you see the picture of Bill Richards' two daughters in the June Technology Review? They are dietitians at Baker and Burton House. This is quite in line with Bill's work; when we last heard, he was a precision farmer at Forestdale, Mass. . . . Fred Hooven has been elected to a second term as trustee of Antioch College, from which school his three sons graduated. . . Maser Optics, Inc., which Harry Franks started a year ago, now has 40 employees in its plant. . . . Bill Payne represented the Institute in October at Wittenberg University for the inauguration of its new president. . . . Glenn Jackson and Bob Bonnar are golfing through New England again. They checked in from Worcester. Glenn and Dick Hawkins, as class agents, have done another good job this year for the Alumni Fund; 35 percent of our active class roll contributed a total of \$11,836, an average contribution of just under \$60.

Carol E. Osgood died September 1. He came to Tech from Boston English High School and was graduated in Course XV-2. He was with Douglas Aircraft as a design engineer for many years and lived at 3271 Malcolm avenue, Los Angeles. His widow survives him. . . . A card has been received telling of the death of Allen N. Crawford of Adamsdale Road, North Attleboro, Mass., on March 29. He was at Tech in Course VI-C in 1925-1926 and later, for many years, was distribution engineer for the Blackstone Valley Gas and Electric Company, Pawtucket, R. I. . . . New addresses received are: Carl H. Anderson, Apt. 9E, 989 James Street, Syracuse, N.Y.; Chester A. Eng-lish, 5222 Dogwood Trail, Lyndhurst, Ohio; George D. Fexy, 4320 Lynnbrook Drive, Louisville, Ky.; Eugene Herzog, 336 Farragut Avenue, Park Forest, Ill.; We-Tuh Kwauk, 1303 Wing On Life Building, Des Voeux Road C, Hong Kong; Charles H. Tedford, 1563 East Northern Parkway, Baltimore, Md.-Joseph S. Harris, Secretary, Masons Island, Mystic, Conn.

28

A note from Jim Donovan reads: "At an American Institute of Chemical Engineers meeting at San Juan, Puerto Rico, I had the pleasure of seeing Juan Mayoral, '29, Course X. He is engaged in rum manufacture, "Don Q," coffee growing, candy making and various other activities in the neighborhood of Ponce.

He and his wife flew across the island for the meeting. He is figuring on retiring. This means that he is going to drop some of his worries about the world sugar market and things like that and concentrate on some of the more pleasant and less worrisome aspects of his multifarious businesses" . . . A note from Ralph reports that Hank Lacroix left Japan at the end of September, where he had been representing the Foster-Wheeler Company, and, after six months' leave, is going to France for Foster-Wheeler. . . . Our first Christmas card of the year was received about reunion time from Dr. and Mrs. Milton S. Thompson from Taiwan Veterans Hospital, Shih-pai, Taipei, Taiwan. Milt asks why we don't hold our next reunion in that part of the world, and he says he would appreciate this very much. . . . Arthur Nichols has been elected chairman of the board by the directors of the Waltham Federal Savings and Loan Association in Massachusetts. Art has been a director of that bank since 1949, and a member of the executive committee since 1953. Everybody knows that he is president of the W. H. Nichols Company.

Arthur Elliott, general manager of the Greater Winnipeg Gas Company, was recently elected chairman of the Industrial Development Board of Greater Winnipeg, a report tells us. This is another occasion for congratulating a former classmate. . . . And if you would like a little stale news from a clipping of June 14, we congratulate Elisha (Bud) Gray. II, for his appointment to the M.I.T. Corporation. Bud, of course, has been chairman of the board of directors of the Whirlpool Corporation for some time past. Incidentally, Bud is also a director of the General Foods Corporation, director of the Sears Bank and Trust Company, a member of the Business Council, and a member of the board of governors of the American Red Cross. He keeps busy. . . . And we are proud to announce that Slim Maeser of Beverly, Mass., senior staff engineer at the Research Division, United Shoe Machinery Corporation, was the featured speaker last summer at the Fourth Annual John Arthur Wilson Memorial Lecture, sponsored by the American Leather Chemists Association and held this year at Niagara Falls in Canada. Slim is an internationally known authority on leather properties.
. . . Jim White of Nashville, Tenn., represented President Stratton and M.I.T. at the inauguration of the new chancellor of Vanderbilt University early in October. . . An engraved invitation forwarded to this desk by someone at the Institute states that the board of trustees of the Virginia Institute for Scientific Research cordially invites you to the dedication of the Allan Talbott Gwathmey Research Laboratory on Thursday the third of October at Richmond, Va. With the greatest regret we announced Pete Gwathmey's death last month. This research building will be a fitting memorial to his scholarship, dedication to science and teaching, and his popularity with his associates at the University in Virginia. Pete had also worked in Syracuse and Charleston, W.Va.

A newspaper clipping notes that Carl Feldman was recently installed as vicepresident of the Massachusetts Society of Professional Engineers. In November of 1962, Carl severed his association with the Allis-Chalmers Manufacturing Company and opened offices at 300 Summer Street in Boston as Carl Feldman, Electrical Engineer. A note written at reun-ion time says: "I wish that this had happened sooner, for my particular specialty of studies to reduce electric rates and operating costs appears to have wide application and acceptance." Carl has one son Peter, 23, who is headed for a career as a bass baritone at the Metropolitan Opera Company. Carl thinks the boy is several years from his goal but working hard and making good progress. . . . Our shining civil engineer Ed Holmes, director of the Office of Planning, U. S. Bureau of Public Roads, was a principal speaker at the Eastern States Highway Officials meeting in Albany early in July. He discussed the bureau's definition and interpretation of the planning portion of the 1962 Federal Aid Highway Act. . . . A photo in front of me, clipped from the Boston Globe of June 2, shows Ernest Knight, mathematics and science instructor at Gould Academy in Bethel, Maine, on top of an old high-wheeler. Ernie found the bike, which was popular in the 1870's and 1880's, in an antique shop in Connecticut 30 years ago. He put it in working condition and has been riding around the streets of Bethel ever since. According to the photo, this is one way to stay slim, healthy and relaxed in our space age.

At the reunion we requested that classmates give us a five-year personal report on their activities. We have a handful of these, and from time to time we plan to publish excerpts from the reports. We will start off with Charlie Worthen, VI, who lives at 124 Highland Street, West Newton, Mass. Charlie, of course, is our class agent. In answer to our question about his business life he states: "I started out as a development engineer, shifted to sales engineer, and then settled down in a publications and sales promotion berth, which is what I like. The job consists largely of putting what the engineers write into English and putting a little sales punch into it. I find it very congenial and rewarding. I am with the General Radio Company in Concord, Mass. We have a small, but successful company, completely employee owned by about 1,000 employees. The company shows a moderate, but continuous growth. We are probably the oldest company in this country, if not in the world, that has been continually in the electronics business since its founding. We started in 1915, before the word electronics became current. We do a world-wide business and have done so since before 1920." We asked about personal life, family, recreation, travel, etc., and Charlie went on to say: "I have one wife and two daughters. Daughter No. 1 is a navy wife, married to a dentist on the 'Enterprise' (the big nuclear carrier). Daughter No. 2 is getting her degree in English at the University of California in February. We haven't traveled much. I was in France in 1961, and took a tour around southern France by auto. This year we spent a week in the Greek islands and Athens in May, a week in Rome, then went to Milan (business). Saw our classmate Herman Krantz for the first time since 1929. Herman is guiding genius of Stigler-Otis, the Otis Elevator Company in Italy. He and his good wife, Viola, insisted on entertaining us royally, although I had planned it the other way around. Wonderful people. Went to reunion at Harwichport. The more I see of '28ers, the more I think we have a most unusual class. Some of the nicest people in the world. Got daughter No. 1 and three grandchildren, plus wife and daughter No. 2 ensconced in Westport, Mass., for vacation. Broke leg. Now waiting for mid-September when they take the cast off. Back in circulation then."-Hermon S. Swartz, Secretary, Construction Publishing Company, P.O. Box 255, Lexington, Mass.

'30

As you probably have read in The Review, the new Alumni Center in New York opened with a fine flourish on September 26. Our classmate, Henry Pattison, Chairman of Benton and Bowles, was in charge of publicity and did an impressive job. Advance notices appeared in the mteropolitan dailies, Cue magazine, and doubtless other publications that I didn't happen to see. . . . Other classmates attending the opening were Les Steffens and Morris Young. Les is in the Mobile Oil planning department, concerned with planning domestic operations for Socony-Mobil. He has three daughters: Elizabeth, who was graduated from William Smith College in Geneva, N. Y., last June and is planning to spend the next three years in Japan teaching English; Barbara, who is a sophomore and art major at the University of New Hampshire; and Katherine, who is in high school in Darien, where the Steffens live. Like many of his classmates, Les is an avid sailor. . . . Morris was accompanied by his attractive wife and two children, who seemed much interested in the exhibits at the Center. As many of you know, after being graduated from M.I.T., Morris studied medicine at Harvard and now has an extensive practice, specializing in eye surgery. He both lives and works in Manhattan. His daughter is currently thinking about taking a pre-medical course at M.I.T. . . . This month there are two items of special interest to the architects among us. Frederic A. (Eric) Pawley, research secretary of the A.I.A. headquarters staff in Washington, has moved to California to become a professor of architecture at U.S.C. According to the U.S.C. Dean of Architecture: "Professor Pawley will work directly with students at all levels, developing research attitudes and methods necessary for the orderly investigation and solution of architectural problems, and will co-ordinate the research interests and capabilities of our teaching departments." Eric has been associated with A.I.A. committees on research, hospitals and health, schools, theaters and nuclear facilities, and has served as technical editor of the 'A.I.A. Journal.' He is well known as a lecturer to professional groups and schools of architecture both in this country and Europe. Classmates serving on school boards may wish to note that his "School Plant Study Series," edited for A.I.A., was recently published in book form.

According to an article that appeared in the 'Springfield Republican,' Elroy Webber "has for the second consecutive year won top honors in the Boston Arts Festival as a result of what he terms 'A Connecticut Valley Style." His "theory of Connecticut Valley Style is a combination of climate, topography and historical significance, blended with wood, stone, brick and natural setting incorporating modern technological advances." The Arts Festival award was for the Edward Kuzon home in Longmeadow which was featured in House and Garden last April. Elroy Webber Associates has designed numerous homes, schools, commercial buildings, club and field houses embodying this style in the Springfield area. . . . Once again it becomes my unpleasant task to note the passing away of one of our classmates. Whit Weinrich died on June 27 in Brookline, Mass. He was the senior member of the consulting firm of Weinrich and Dart in Washington, D. C., and specialized in nuclear engineering. His work included the design of raw and feed material production plants, reprocessing facilities and isotope separation units. In addition, he served as a consultant for many years to the Oak Ridge National Laboratory. Whit lived in Harwood, Md., and was a boating enthusiast and member of the Annapolis and Kona Yacht Clubs. . . . Changes of address: Vito Janone, P. O. Box 1242, Huntsville, Ala.; Arthur McCullough, 545 Park Avenue, Elmhurst, Ill.; Eric Pawley, School of Architecture, U.S.C., University Park, Los Angeles, Calif.-Gordon K. Lister, Secretary, 530 Fifth Avenue, New York 36, N.Y.; Assistant Secretaries: Charles Abbott, 26 Richard Road, Lexington 73, Mass.; Louise Hall, Box 6636, College Station, Durham, N.C.; Ralph Peters, 16 Whitestone Lane, Rochester 18, N.Y.

'32

Extracts from replies of members of the class to a letter sent out by Richard M. Stewart will interest many of you. From Francis S. Chambers, Jr., 309 Dickinson Avenue, Swarthmore, Pa.: "I am older and balder, with a college freshman son and a high school senior daughter. I still slave for E. I. duPont. I haven't seen any fraternity brothers for years but I do see some of our classmates occasionally. In fact I ran into both John Crowther and Tom Anderson in Los Angeles this fall." . . . From Stuart R. Fleming, Ford, Bacon and Davis, 2 Broadway, New York (written from the Sands Motor Hotel, Vancouver, B.C.): "I am a long way from New York and Waterbury. I trust you can read my writing as I did not bring my secretary with me. As for myself, we

have two daughters, as you may know. One, married after attending Bucknell, to a Sigma Chi from there, now has a threeyear-old son (or should I say we have a three-year-old grandson?) and is living in Stratford, Conn. The second is a junior at Iowa State in Ames, majoring in foods, so if you need some sound advice on that bulging waistline, let me know. At one time I was very much interested in local affairs at home-president of the Board of Education, vice-president of church trustees, etc., but soon found that despite my higher state of elevation with F. B. and D., my days of travel were not over; hence, I have given up most of my activities since I couldn't do a proper job. I've been out here the better part of the last year in connection with a law suit involving a natural gas project we did back in 1956 and 1957. Do you remember what you were doing on the afternoon of August 15, 1956? So you see, we slaves who are in the consulting business never do get to call our souls our own and have to be always at the call of those we love best, our clients, and as a result we have to forego some of the pleasures in life you fellows who stay more or less in one place can enjoy. Normally, (whatever that is) we spend our late spring, summer and early fall spare time at Groton Long Point, where we have had a summer home since 1945, and hope to relax a bit-primarily sailing and swimming. If all goes well we may get there this summer, at least I can dream. As a matter of fact, the chances are fairly good since Justice-as well as everyone else in Canada—takes her holidays in July and August, so if you want to commit a murder, come to Canada in the summer!"

From T. Stewart Varey, 14 Genesee Street, Baldwinsville, N.Y.: "This past January was our 30th wedding anniversary, so Muriel and I treated ourselves to a nice winter vacation in the Virgin Islands. Our one daughter, Jane, with Time and Life International in New York, broke her leg skiing in Austria while we were in St. Croix. First we knew of the accident was on our return in March. Managed to get her home the middle of March and have had her staying with us since then. Doctor has promised to let her return to work, cast and all, on May 6. We left New York in 1946 after eight years of the rat race and moved to the Syracuse area (Baldwinsville). Became fed up with corporation workings in 1957 and bought three agencies in this area, now incorporated into our present operation. We gave up golf for boating about eight years ago and now keep our boat on the St. Lawrence at Calumet Island Marina. During the winter months we work on boat projects for the coming season. Missed seeing John Mesker, '33, by just a few hours in February a year ago in Florida. He has his boat "Princess Jonina" berthed down on the Keys through the winter. Nina usually lives aboard through the winter and John commutes to and from St. Louis as time allows. Have conscientiously tried to make some of the M.I.T. Club meetings here but can't seem to work them in. I have been in the insurance field since 1934, well removed from professional engineering

problems with all time available devoted to association and activities related to the insurance profession." . . . From John F. Strickler, Jr., 1434—92nd Avenue, N.E., Bellevue, Wash.: "Right after graduation I went into the Air Corps and spent two years and eight months. Then, after a few months as a flying instructor, I went to work for Bell Aircraft in Buffalo. I worked at the engineering trade and ultimately became assistant vicepresident, engineering and division manager of the research division. In December, 1957, I left Bell to come west to Boeing, where I am director of administration of the Aero-Space Division,-a 50,000-man operation that builds Dyna-Soar, Minuteman, BOMARC, hydrofoil boats and various space projects. Back in 1938 I married a girl I'd known since I was in sixth grade and we have three children. Jeff (John F., 3d) is completing his B.A. in history at the University of Washington and in the fall is going to Yale on a scholarship to do graduate work. Ken (Kenneth M.) decided to get in his military service before finishing college. He is an electronics technician in the Air Force. At present he is stationed in Duluth, helping to maintain the SAGE computer. He got his electronics training at the IBM school in Kingston, N.Y. Our daughter, Linda Ann, is just completing her freshman year at the University of Puget Sound in Tacoma. Did you get to Seattle last year to the Fair? If you did. you know what beautiful country it isthe mountains, the lakes and all the beautiful scenery. Seattle is considered the boating capital of the world with 50,000 boats in and around the area. We had a little outboard runabout when the kids were at home as they all like to water ski. And if you like to snow ski, there is skiing seven months of the year, only about an hour from our house. However, I'll have to admit that I'm a little bit old for that jazz now! There is also hunting, fishing and camping for those who like it. I'm an arm-chair athlete, myself!" . . . "In my own case," adds Dick Stewart, "we have three sons—the second currently a junior at M.I.T. in Electrical Engineering. (Tough as it was then, aren't you glad we don't have to face today's competition?) After working in and around New York for 20 years, it was a wonderful change for us to move to Connecticut to be with the American Brass Company in Waterbury. The spare hours in summer are devoted to golf and in the winter to the Rambler which we took to England for the London-Brighton Run, a 1910 Hupmobile, a 1911 Peerless and a 1934 Jaguar. Under these circumstances who could avoid being happy?" . . . All the best of the season's good wishes.-Elwood W. Schafer, Secretary, Room 10-318, M.I.T., Cambridge 39, Mass.

'34

Colonel Daniel F. Shepherd, a veteran Army missileman, has been named director of research and development at the Army Missile Command, Redstone Arsenal, Ala. Shep never had any classes in

missiles in Course II, but presumably he got his start after classes by throwing thumb tacks into distant drawing boards. Shep was at Redstone in 1956, but had a spell at Picatinny Arsenal before returning to take this important duty. . . . Bob Moody is working in sales administration for Mack Truck, Inc. Their executive offices will soon be moved from Plainfield, N.J., to Suffern, N.Y., which will be more convenient for commuting from his home in Edgewater, N. J. . . . Frederick Gans, whose wife also attended M.I.T. when she was Priscilla Bacon, was pleased that his son followed both parents' example of entering M.I.T. He was graduated last June with a B.S. in earth sciences. Now he is at U.C.L.A. pursuing a doctorate in rock mechanics. Fred, who is a partner of Skidmore, Owings and Merrill, says there is no relation between earth, rock and buildings other than the father-son relationship. . . . Merton Neill still works vigorously as a patent attorney, which was the reason he took Course XIV. Electrochemical Engineering. He keeps in close touch with Henry Kawecki, whose only job seems to be to attend a few high-level meetings of Beryllium Corporation of Reading, Pa., and of Kawecki Chemical Company. The latter company deals with such exotic names as tantalum, niobium, titanium, zirconium, etc. Henry takes his boat to equally exotic sounding places in the West Indies. Henry also flies a great deal and has so infected Mert Neill that Mert will soon be getting his instrument license and his daughter will be getting her private pilot's license. Such pressures on Mert's time keep him from staying fully abreast with his daughter's high school chemistry, which he finds is thoroughly modern and tough.

Sam Joroff is associate professor of urban planning at the School of Architecture, Columbia University. You will recall that Sam spent a year in Turkey where he worked on regional planning for a U.N. technical program. In a talk before the National Planning Council in Seattle, Sam told of the explosive 67 per cent ten-year population increase in the region of Istanbul. This resulted in 360,-000 squatter huts and a condition where only 20 per cent of the population was served by some kind of sewer. Such problems a country which is 70 per cent rural finds difficult to solve. But they are trying. One way is to reduce thoughtless migration. Yet Sam says the United States can learn from Turkey's approach. This is to make long range plans, not just short ones, and to develop a sense of urgency.

At this holiday time of year, we hope you have a little time to think ahead to next June and our 30th Reunion on Cape Cod. If you have not returned the tentative reservation form which was mailed to all a month ago, how about digging it out and sending it in? As this is written in early October, the full reunion committee is about to meet for the first time—look in this column next month for a report. The members are Bob Becker, Joe Bicknell, Jim Burke, Roger Coffey, Al D'Arcy, Les Doten, Lou Frank, Del Keily, Norman Krim (Chairman), Ernie

Massa, Walt McKay, Larry Stein, Mal Stevens, Carl Wilson, Paul Wing and Walt Wrigley. . . . If by mischance any classmate did not receive the committee's letter last month, if he will drop a line to Norman Krim, Room 33-213, M.I.T., complete information will be sent. Even at this early date, the reunion promises to be a memorable weekend for the fortunate ones who come.

Merry Christmas to all! To make 1964 an outstandingly Happy New Year, reserve June 12-14 on those brand new calendars.—James Eder, Secretary, 1 Lockwood Road, Riverside, Conn.; G. K. Crosby, Secretary, 44 Deepwood Road, Darien, Conn.; Harold E. Thayer, Secretary, 415 West Jackson Road, Webster Groves 19, Mo.; Malcolm S. Stevens, Secretary, 9 Glenfield Road, Barrington, R.I.

35

The Class Golf Tournament is now down to Dick Bailey and Sid Grazi. One of these will be the winner, class champion and holder of the President's Cup for 1964. Bill Barker, defending cham-pion, was eliminated in an extremely close match (by mail) with Dick Bailey which was decided solely by the difference in USGA ratings of the courses they played. Ham Dow showed remarkable perseverance for a high handicap player but was finally eliminated by Sid Grazi. . . . Dick Jarrell, President of Jarrell-Ash, is announcing his company's construction of a new \$2 million facility on Route 128 in Waltham. They produce analytical instruments for research and industry. Governor Peabody was principal speaker at the groundbreaking ceremonies. . . . Charles F. Goodale has been appointed vice-president, architecture, for the Howard Johnson Company's Red Coach Grill Division. . . . Nelson H. Thorp has been appointed to the board of trustees and corporators of Springfield College. Paul Cohen has been appointed a research department head at the Sperry Gyroscope Division of Sperry Rand in Great Neck, Long Island. . . . John Duff, 3d, is an engineer with the New Bedford Water Department and now lives at 101 School Street. . . . Arthur R. Anderson, of Tacoma, won the Construction Practice Award of the A.C.I. with another M.I.T. alumnus, Alfred T. Waidelich, '30, of Cleveland, for their paper on "Prestressed and Precast Concrete Building at Boeing Plant." Art is a partner in the Tacoma consulting engineering firm of Anderson, Birkeland and Anderson and co-founder and principal of the Con-Technology Corporation. . . . Henry S. Young, Jr. has been appointed staff scientist by Brooks & Perkins, Inc., of Detroit. For the previous six years he was with Chrysler Missile Division at Detroit and Huntsville. . . . Dr. Paul L. Gilmont's latest address is 3201 Oregon Avenue, Costa Mesa, Calif. He was formerly at Elizabeth, La. . . . Malcolm A. Porter has moved from Wilmington, Del., to Seattle, but is still with duPont, at 1127

Washington Building, Seattle 1, Wash. . . . Mrs. Alice M. Johnson has moved from Western Springs, Ill., to 425 North Cavender Street, Dallas 11, Texas. . . . Richard Lawrence can be reached at Cummins Diesel of New England, 201 Cambridge Street Allston 4 Mass

Cambridge Street, Allston 4, Mass. Louis Fong is the director of the office of Technology Utilization of the National Aeronautics and Space Administration. I had a brief chat with him following his successful eye operation at Massachusetts General last summer. Louis develops, executes and reviews plans, policies and programs for translation of technological advances accruing from NASA programs into practical industrial and commercial applications. Jim Eng sent me a write-up that appeared in 'Steel' concerning Louis Fong's NASA activities. 'R/D Research and Development' also had quite an article by Louis in its April issue last spring. . . . Wes Loomis very thoughtfully sent a copy of a letter he wrote to Hal Bemis this summer so that parts of it could be included in our notes: "I am still gainfully employed as president of General Telephone Directory Company, which, as you know, is a wholly owned subsidiary of General Telephone and Electronics Corporation. Incidentally, in view of our own contribution toward making this corporation's record-breaking year, we believe that we will exceed the financial analysts' current expectations of \$1.25 per share. The dividend payment has been increased this year by 10 per cent and the market hasn't budged. I am merely telling you this, Chum, as I know you are constantly looking for places to invest all of your idle money. So far as the Directory Company is concerned, business is excellent, and we aim to keep it that way for some time to come. I am still married to the former May Bradford Paine of West Newton, Mass., who for some reason still continues to put up with me. Betsy is now 22 and is about to enter her last year at Finch College in New York. After graduating from Colby Junior College in New London, N. H., about three years ago, she attended the nursing school at Columbia Presbyterian Hospital for a year, only to reach the conclusion that a nursing career was not for her. Currently she is attending a summer course at Lake Forest College and is thoroughly enjoying other extra-curricular activities. Jonathan is 20 and entered Colby College, Waterville, Maine, last year after spending a year at Gordonstoun School in Scotland. That was quite an experience. He is currently going to Northwestern University summer school and plans to return to Colby next fall with an extra credit under his belt. Incidentally, he pledged Deke, which showed considerable good judgement, in view of there not being a Fiji House on campus. Fred is 13 and will be in the eighth grade at North Shore Country Day School next year. He rounds out the 12-month academic schedule of our children, as he is taking a course in mathematics this summer. Incidentally, he is no more a mathematical genius than yours truly, but does possess a rather unique artistic flair. God knows what he will end up doing.

From all this you can gather that Polly is chief cook and bottle washer, to say nothing of housekeeper for a full house, and in her spare time she drives a taxi from our home in Northfield to Winnetka, Chicago, and points in between. You can imagine she has a rather exhausting and unglamorous schedule. The other day when in Neenah, Wis., I talked to Art Croxson on the telephone. He is mixed up in the envelope end of Kimberly-Clark's business. Bill Cross was out of town and in far off places. As you know, he is president of Kimberly-Clark International. Whenever I am in Tampa I see Bill Mills, '34. He has built a building for us, and I am happy to say that it is a good one-and at a good competitive price. We missed you at the New York dinner. Perhaps it was just as well, because Bill and I did pretty well on our own." . . . Please do your secretary a favor and add him to your Christmas list so he can take advantage of all the newsy cards which may be included.-Allan Q. Mowatt, Secretary, 11 Castle Rd, Lexington 73, Mass.; Regional Secretaries: Edward C. Edgar, Kerry Lane, Chappaqua, N.Y.; Hal L. Bemis, 510 Avonwood Road, Haverford, Pa.; Edward J. Collins, 904 Merchandise Mart, Chicago 54, Ill.; and Gerald C. Rich, 105 Pasatiempo Drive, Santa Cruz, Calif.

'36

Thanks to an eleventh hour assist from the Alumni Office in the form of a batch of clippings, this month's notes are not as meager as I had expected. . . . Robert E. Worden has been named a director of the Wellington Fund and the Wellington Equity Fund. The two have combined assets of about \$1.6 billion and more than 275,000 shareholders. Bob, an industrial and business consultant, is a partner in the firm of Worden and Risberg in Philadelphia. He is a director of SKF Industries, the Philadelphia Industrial Development Corporation, and the Chamber of Commerce of Greater Philadelphia. He is also chairman of the board of trustees of the Shipley School in Bryn Mawr. What do you do in your spare time, Bob? . . . Captain Edgar R. Pettebone, 2d has transferred from the Navy's Bureau of Ordnance to the U.S. Naval Ammunition Depot at Crane, Ind., where he is commanding officer. Ed has been with the Navy since 1941 except for three years with the Carter Oil Company as an engineer-economist.

Two graduate members of our class are also in the news: Norman T. Robey, who has been with the American Oil Company since 1936, has left the Wood River Refinery where he was manager. On August 1 he became manager of planning for the manufacturing department at the general office. . . William R. Hewlett, executive vice-president, director and co-founder of Hewlett-Packard Company, Palo Alto electronics firm, has been elected to the Stanford University Board of Trustees. He is also a director or trustee of eight other institutions: Mills College, the California Manufacturers Association, Hexcel Prod-



Hannah C. Moodey, '36, a leader in the development of color television at RCA in Lancaster, Pa., is also active in the League of Women Voters and the American Association of University Women.

ucts, Inc., of Berkeley; Kern County Land Company; Pacific National Bank of San Francisco; the Rand Corporation; Sierra Capital Company, of San Francisco; and the Watkins-Johnson Company, electronics manufacturers of Palo Alto. . . . New addresses to report are: Henry Christensen at 19 Lawrence Road, Madison, N.J.; and Oswald B. Falls, Jr., at 1930 Herkimer Street, Jackson, Mich. . . . In early October your secretary, in another capacity, attended the dedication of McCormick Hall, the new M.I.T. residence for women students. I'd like to start all over again as a freshman if I could enjoy such beautiful surroundings.-Alice H. Kimball, Secretary, 20 Everett Avenue, Winchester, Mass.

'37

Martin Kuban has recently changed company affiliations and is now chief manufacturing engineer of Ampco Metals, Inc. of Milwaukee, Wis. Martin also adds that his two daughters are harpists and are now performing with their mother in concerts in the Midwest area. His son, Chris, is a clarinetist in his high school band, which will be playing at the New York World's Fair in 1964. . . . Walter Hughes has been appointed professor and chairman of the department of physiology at the School of Medicine at Tufts University. In 1937, Walter spent a year in Stockholm as a Moore Traveling Fellow. From 1940 until 1953, he held teaching and research posts at Harvard University. Following a fellowship there in protein chemistry from 1940 to 1942, he became research associate and then associate in physical chemistry. In 1948 he was named as assistant professor. From 1951 to 1952, Dr. Hughes was a Guggenheim Fellow at California Institute of Technology. In 1953 he joined the faculty of Johns Hopkins University as an associate professor and remained there until 1955 when he moved to Brookhaven National Laboratory, where he was recently head of the division of biochemistry.

Joe Engel has been named chief metallurgist for Republic Steel corporation's South Chicago steel plant. A veteran of 24 years with Republic, Joe has been chief metallurgist at the company's Buffalo district steel plant since July, 1961. He joined the company in Buffalo in 1939 as a member of the metallurgical department. He was appointed mill-metallurgist in 1947. In 1953, he was appointed assistant chief metallurgist at the Buffalo plant. . . . The synthetic industrial fabric department of the J. P. Stevens Company, Inc., which is headed by Manager George Ewald, developed and produced the fabrics which sheltered and clothed the mountaineers for the American expedition which reached the summit of Mount Everest last spring. . . . Bob Ferguson has recently been named by U.S. Steel Corporation as vice-president for design and construction.-Robert H. Thorson, Secretary, 506 Riverside Avenue, Medford, Mass.; Professor S. Curtis Powell, Assistant Secretary, Room 5-325 M.I.T., Cambridge 39, Mass.; Jerome Salny, Assistant Secretary, Egbert Hill, Morristown, N.J.



Shish kabob, mathematics, aeronautical and electrical engineering, family-raising and teaching are a few of the skills of Nancy Klock, '37. Her son, Peter A., '65, is in Course VII at M.I.T.

'38

Having just returned from a visit into the Boston area, I offer several first-hand reports: the Coop has converted its membership emblem into a typical credit card—embossed in plastic, semi-automated, and painless. And Don Severance, who has more roles than Alfred Lunt, is one of the watchdogs on the board of the Coop! . . . Frank Gardners and I discussed the problems of the Office of Naval Research, and the function of the

scientist in government. Frank's activities in the Boston office associate him with university and industrial Navy contract research in metallurgy. This major challenge is to co-ordinate administrative details in the Boston office with the national program and still preserve individual research and growth! We discussed the recruitment of young men into such service, and how you preserve, simultaneously, professional integrity, public responsibility, and public accountability! "E" and Polly explored the stimulus of educational programs at a lower level—the sixth grade.

Bruce Leslie shared a different aspect of New England life with us. He and Ruth were eagerly awaiting delivery of their Pearson Ariel fiberglass cruising sloop! Having brought up three sons on day sailers, and trained them as sailing instructors. Bruce decided there were still more untouched pleasures on Narragansett Bay, and that a 26-foot floating summer resort would open a new world. The previous day, Ruth selected cabin fittings and trim, while Bruce gave last approval to the utilitarian gear. . . . Ed Hadley wrote about the Alumni Fund Workshop in September. It was attended by Haskell Gordon, our Class Agent, Jack Chapin a regional vice-chairman in Reading, Pa., and Ed: "There was some other member of the class who seemed to be running the show; I think he calls himself the executive vice-president of the Alumni Association. I don't want to appear maudlin, but it was truly inspiring! It started out with a discussion of the continuing needs of the Institute, went into fund raising techniques, and ended with talks by three professors and Dean Brown on new teaching techniques. John Wulff's talk was the best; he mentioned Bell Laboratories seven times, including Al Clogston for good measure. Professor Adler spoke a half hour on solid state physics and the transistor, but didn't mention Bell once! At the dinner Haskell accepted a citation to Bob Johnson and the entire class for our 25th Reunion Gift. The following day I wandered through the Women's Dormitory, and found out afterwards that I wasn't allowed in because there were already girls living there. Following the Fund discussions, came the M.I.T. Alumni Seminar which I couldn't attend. Jack Chapin stayed, and, of course, Don Severance had a prominent part, including a close association with a delightful but absent-minded peanut-eating cybernetician.'

Two of our graduate associates are in the news this month, Curt Hoerig has been appointed general manager of the Mueller Climatrol division of Worthington Corporation in Milwaukee, a promotion from manager of production for this heating and air-conditioning organization. . . . Gordon Morris has been appointed manager for construction of the British Columbia Hydro and Power. He brings experience from Port Mann, Idaho; Brazil, the peace project; and the Portage Mountain Dam construction. . . . John Cook's Warren Wire Company has been bought by General Cable, and John is now a vice-president of General. His new

duties will draw him out of the Williamstown calm into the crush of New York City. . . . John Sullivan has been renamed president of the Dayton Ohio Art Institute board of trustees, for the eighth year! John's firm of architects and engineers handled the Municipal Airport and many other Dayton commissions. This spring he traveled with the director of the Art Institute to Egypt and Abu Simbel, and then to Istanbul and Athens. After this working trip he met Frances in Rome for a bit of inspired relaxation. John, also serves on the Cornell University Council. . . . We have several deaths to report with sorrow. Art Christgau died two weeks before reunion. Although he had been ill for a while, Art had planned to attend, and many of us had looked forward to seeing him. Art leaves his wife Peggy, a daughter, 19, and a son, 13. Notices report the death of Bill Spaulding, Assistant Chief Engineer, Standard Oil of California, Berkeley, on July 5; and of Kenneth Mackenzie on August 4. General F. J. McMorrow, commanding officer of the Army Missile Command at Redstone, died on August 24.—Frederick J. Kolb, Jr., Secretary, 211 Oakridge Drive, Rochester 12, N.Y.

'39

Dr. Lloyd P. Hunter, VIII-G, was appointed professor of electrical engineering at the University of Rochester, starting in September. Lloyd, last mentioned here in June, 1962, was visiting professor last year at Stanford University and for 12 years prior to that was with IBM, concluding his work there in the position of director of component engineering, and manager of solid state component development. He holds 15 patents, and eight more are pending, varying from a semiconductor amplifier to transistor struc-



A S.B. in physics in two years, a Ph.D. in math at the age of 21 were only first steps for Domina Spencer, '39. Since then she has taught at four major universities and carried on professional work in illuminating engineering.

tures and methods of manufacture. Lloyd is a fellow of the American Physical Society and a senior member of the Institute of Electrical and Electronics Engineers. . . . Colonel Leo A. Kiley, X-B, is currently serving as vice-commander at the Air Force Cambridge Research Laboratories, Bedford, Mass. Prior to his new assignment, Leo was deputy chief of staff, Weapons Effects and Test Group, DASA, where he was responsible for all Department of Defense scientific experiments in connection with the 1962 series of nuclear tests in the Pacific. In 1952, Leo received his Ph.D. in nuclear chemistry from Ohio State University.

William Hewitt Phillips, XVI, heads up a newly formed Space Mechanics Division at the Langley Research Center, Hampton, Va. Hewitt's new work will utilize the Space Vehicle Rendezvous Docking Simulator, the Lunar Landing Research Facility, and other space simulators in research in support of the lunar mission and other space flight programs. . . Major General James B. Lampert, I-G, formerly head of military construction for the Corps of Engineers, Washington, D.C., was recently appointed the 46th superintendent of the United States Military Academy, at West Point. A 1936 graduate of West Point, General Lampert received his master's degree in civil engineering with the Class of '39. . . . C. Arthur Zeldin, III, was recently promoted to manager of the Maryland refinery of Kennecott Copper Corporation, having served previously as refinery plant superintendent at the Utah Copper Division.—Oswald Stewart, Secretary, P.O. Box 1238, Bethlehem, Pa.

'40

It is with regret that I must report the death of John E. Arnold, who did graduate work with us in Course II. At the time of his death, John was professor in the mechanical engineering department of Stanford University. . . . A recent issue of General Electric's missile and space division periodical 'Challenge' carries a cover story on "NIMBUS, Weather Eye of the World." Louie Michelson is in charge of the NIMBUS project. . . . Bob Seedlock has been promoted from brigadier general to major general in the U.S. Army. Presently he is division engineer of the U.S. Army Corps of Engineers' Missouri River Division in Omaha. . . . Walt Brewer has become associate general manager of San Bernardino operations of Aerospace Corporation. Additionally, he will serve as general manager of the advanced planning division and, furthermore, is vice-president of the company. . . . Harold Cheilek has been promoted to vice-president-technical director of Cal Laboratories. . . . Ralph Thompson is now director of research and engineering for Calgon Corporation. Formerly, he was manager of R and D.

Bill Mounce has been elevated to the position of product development manager in the development and research department of the International Nickel Company. Bill has been with International

Nickel since 1945, and has just returned from Paris, where he served with a branch of the organization. . . . Thus, members of our class continue to climb to the top of the industrial ladder. . . . Karl Fetters has been elected the 1964 President of the American Institute of Mining, Metallurgical, and Petroleum Engineers. Karl is also vice-president for research and development of the Youngstown Sheet and Tube Company. . . Don't forget to contribute to the Alumni Fund and help swell the totals for our 25th anniversary gift which will be presented by the class to the Institute in June, 1965.—Alvin Guttag, Secretary, Cushman, Darby and Cushman, American Security Building, Washington 5, D. C.; Samuel A. Goldblith, Assistant Secretary, Department of Food Technology, M.I.T., Cambridge 39, Mass.

'41

Class President Edward R. Marden has announced the acceptance by Carl M. Mueller, 374 Heights Road, Ridgewood, N.J., of the 25th anniversary gift and special gifts chairmanship. . . . News has just been received of the untimely death of Frank J. Storm, Jr., 3209 Hawthorne, Amarillo, Texas. Frank was class vice-president for the Southwestern region. . . . Teddy F. Walkowicz, a senior associate of Laurence S. Rockefeller, has been elected a director of the National Aviation Corporation, a closed-end investment company. He replaces the late Admiral Luis deFlorez, '11, U.S.N., retired. Ted served in the Air Force from 1941 to 1952, rising to the rank of lieutenant colonel. For the next 10 years he was a consultant to the Air Force's scientific advisory board. . . . Rogers B. Finch, former Peace Corps official, has been named associate dean of the Hartford Graduate Center of Rensselaer Polytechnic Institute. He will assist in long range planning and development of academic programs and research at the Hartford Graduate Center. Rog served as chief of the university relations division of the Peace Corps from August of 1961 until his appointment at R.P.I. He and his family live at 57 Briarwood Drive, Glastonbury, Conn.

D. Reid Weedon, Jr. was elected vicepresident of the Cambridge Chamber of Commerce for the fiscal year beginning October 1, 1963. Reid is a senior vicepresident of Arthur D. Little, Inc., where he is in charge of business development in this country and abroad. . . . Howard J. Samuels has been named general manager of the Plastics Department of Mobile Chemical Company, an operating division of Socony Mobil Oil Company. He will continue to co-ordinate activities of Kordite, Mobile Plastics Development and Mobil Chemicals, Ltd. (London). He is also a vice-president of Mobil Chemical and president of its film making subsidiary, Kordite. . . . Albert Hosmer Bowker, Dean of Stanford University's Graduate Division since 1958, has been appointed chancellor of the City University of New York, a \$40,000-peryear post. He received his B.S. degree from M.I.T. and his doctorate in 1949 from Columbia University. . . . Frank S. Wyle, President of Wyle Laboratories, El Segundo, Calif., has announced the merging of the Wyle Laboratories' Ransom Research Division of San Pedro, Calif., into the Wyle Manufacturing Division in El Segundo. Ransom products include all-solid state digital logic modules, instruments and systems. These will be added to the manufacturing division's existing line of environmental test chambers and power-aging systems for electrical-electronic components.

William P. Cadogan has been appointed director of research of Emhart, Hartford, Conn. Bill will be responsible for the supervision of the company's overall research, development, and engineering program. He joined Emhart following a seven-year association with American Machine and Foundry Company as manager of chemical research development. Prior to joining and A.M.F., he was vice-president at Processes Research, Inc., consulting engineers. . . . Alfred B. Booth, Jr. has been appointed director, manufacturing services, of Celanese Corporation of America. He will provide the corporation's divisional management with information and recommendations on increasing efficiency and economy of manufacturing. He served with Albert Ramond and Associates, management consultants of Chicago and New York, for 15 years, specializing in plant production operations and production management controls. He was Northeast district manager and chief engineer, with headquarters in Boston .-Walter J. Kreske, Secretary, 53 State Street, Boston 9, Mass.; Henry Avery, Assistant Secretary, 169 Mohawk Drive, Pittsburgh 28, Pa.; Everett R. Ackerson, Assistant Secretary, 16 Vernon Street, South Braintree 85, Mass.

'42

William R. Johnson was co-author of an article in the August issue of 'Machine Design.' In a biographical sketch accompanying the article, we learn that Bill is concerned about engineers' disinterest in 'alien' fields. Apparently, Bill has worked in research closely applied to practical problems and has shown considerable interest in the interaction between disciplines. Before joining Associated Spring, he was with Armour Research Foundation. He is an active member of A.I.M.E., A.S.M. and S.A.E. and is interested in tennis, sailing, skiing, and camping . . . The 'Telefood' magazine has an article in its August issue about the Johnson-Appleby Company of Cambridge, Mass. This company has supplied leading resorts and clubs across the country since 1908 with preserves and relishes under the Old Honesty line. The chief food technologist and production manager at Johnson-Appleby is Walter Kneeland, who describes quite briefly some of the pains taken by the company to produce the highest quality products. Walter points out that at Old Honesty

they even "age our watermelon rind in casks before we pack it."

Welville B. Nowak has been promoted to professor of mechanical engineering at Northeastern University. Congratulations! . . . Ernest M. Kenyon was recently appointed assistant director for food research and development at the Quartermaster Research and Engineering Center in Natick, Mass. . . . At the recent dedication of the Alumni Center in New York City, I saw a number of our classmates. I had a long talk with Warren H. Powers, who has been promoted from production manager at Maxwell House to research engineering manager at General Foods Technology Center at Tarrytown, N.Y. Warren and his family have had somewhat of a hectic existence as they have had about four moves in less than four years time. . . . I saw Al Clear, who was trying to sell everyone membership in the Alumni Center of New York. . . . Finally, I had a nice talk with Henry Lemaire and had the pleasure of meeting his charming wife. Henry is at Lever Brothers. He has promised to write me so I can bring you all up-to-date on his activities. . . . Since this will appear in the December issue, I wish you all a Merry Christmas and a prosperous New Year. I do hope that as a New Year's resolution you will plan to write to your secretary so that we can let your classmates know what you are doing .- John W. Sheetz, 3d, Secretary, Room 3-342, M.I.T., Cambridge 39, Mass.

'44

This fall I spent a couple of days in Chicago, and while there I was able to see Lew and Dottie Tyree, II. He has been doing some interesting consulting work with a cryogenic pump which he has designed and patented. In connection with the sale and application of the pump, Lew has managed to see numerous members of the class. He gave me the following information: Bill Ritterhoff, II, who has been with Bethlehem Steel for quite some time in production at Sparrows Point, Md., is moving to Chicago and will be in charge of setting up Bethlehem's new plant in that area. Lew d'd not know the exact date of Bill's move, but it was to take place soon. . . . Lew also ran into Dick Whiffen, VI, who has moved up to the position of general manager of Bendix Aerospace Division, in South Bend Ind. . . . Norm Callner, X. who was mentioned in last month's notes, has been with Liquid Carbonic in Chicago for some time, and is now director of engineering. . . . Al Picardi, I, is an associate partner and chief structural engineer of Skidmore, Owings and Merrill of Chicago. Al has spent some time in New York recently following numerous jobs there. . . . Bob and Suzy Faurot, XV, had just left for an extended trip to Europe on business-the main stop, Paris. Bob has been a vice-president of Western Felt in Chicago for some time. . . . During a trip to Pittsburgh, Lew stopped in to see Warren and Louise Howard, II. Warren is busy with his own company and very



Marie A. Jakus, '45, a scientist administrator at National Institutes of Health, earned her Ph.D. in biology at M.I.T. Her studies of eye tissue structures are well known in the visual sciences.

happy in the Pittsburgh area. He has been looking at colleges and college entrance requirements, as his son Peter is just about to graduate from high school. Peter, by the way, is quite a tennis player, as his Dad was. I never did hear if Peter had looked very seriously at M.I.T., but I must say that Lew and I did some thinking about one of our classmates' getting his offspring ready for college!'

On a trip to Boston last month, I was able to attend a meeting of the committee on the 20th Reunion. Scott Carpenter, who is chairman, has an enthusiastic group to work with him. They are: Norm Sebell, Bob Peck, Mal Kispert, Jack Frailey, Bob Breck, Bud Bryant, and Bill Noyes. The ideas these fellows are tossing around are terrific. For the longrange vacation planners, the reunion will be at the Hotel Curtis in Lenox, Mass., with festivities starting Friday, June 12, and ending Sunday, June 14. Alumni Day will be Monday, June 15, 1964. I shall try to keep you posted; meanwhile, watch your mail for latest reunion announcements .- P. M. Heilman, Secretary, 30 Ellery Lane, Westport, Conn.

'46

Two of our classmates and their work were subjects of attention in recent nationwide publications. Bob Davis and his 'Madison Project' elementary mathematics program was discussed in September 14 issue of the 'Saturday Evening Post.' Dave Hoag's M.I.T. inertial navigation system for Apollo was the subject of brief articles in the first October issues of both 'Electronics' and 'Business Week,' complete with pictures of Dave. . . . The list I received of classmates attending Alumni day last spring indicates a below average turnout: Don Hurter, Louis Martin, Clarence and Pat Lyon and Cliff and Ann Sibley. . . . There have been some position changes recently. Dr. Roger Bart (Ph.D. in Chem Eng.) has been appointed director of project planning for Union

Bag-Camp Paper Corporation. Before joining Union-Camp, Roger was vice-president of research with Guilford Industries, technical assistant to the vice-president of research at West Virginia Pulp and Paper Company, and manager of International Minerals and Chemicals' Florida experiment station. . . Frederick J. Ross, Jr. has been named general manager of the bonded abrasives division of the Carborundum Company, Niagara Falls, N.Y.

Among our graduate degree class members the following changes have occurred: Captain Jack J. Hinman, III, U.S.N., became commanding officer of Floyd Bennett Field. . . . Retired Navy Captain Edwin E. Kintner became president and member of the board of the South Portland (Maine) Engineering Company, a firm engaged in sub-contract work in the Navy's submarine construction program. . . . Robert Kolb has recently moved from plant manager of the Drummondsville, Quebec, plant to assistant to the executive vice-president of Dominion Textile Company, Ltd. . . . Colonel John A. Ryan, Jr. of Chatham, N.Y., is presently attending the Industrial College of the Armed Forces at Ft. Lesley J. McNair, Washington, D.C. . . Dr. Douglas M. Surgenor, Dean of the Medical School at State University of New York, is representing the United States on the long-range planning committee of the International Committee on Blood Clotting Factors. . . . In recognition of his outstanding contributions to the science of quality control, John Mc-Quarrie, Superintendent of Plant Technical Service, Hydrocarbons Division, Monsanto Chemical Company, Texas City, Texas, has been elected a fellow of the American Society for Quality Control. . . . Robert E. Latimer of O'Fallon, Ill., recently co-authored a paper given at the Buffalo, N.Y., meeting of the American Institute of Chemical Engineers. The paper was entitled "Thermodynamic Comparison of Large-Scale Liquefaction of Air, Hydrogen and Helium." Merry Christmas to all.-John A. Maynard, Secretary, 25 Pheasant Lane, North Oaks, St. Paul 10, Minn.

'48

Last month Bob Mott gave us a really fine report on our wonderful 15th Reunion last June. As a follow-up, here is the list of those who attended (including many wives and guests): Charlie and Shirley Adams, Norb and Pauline Andres, Bill and Bobbie Bertolet, Marty Billett, Bob and Dorothy Bliss, Al and Billie Bowen, Phil Bragar, Ken and Anne Brock, Ken and Betty Bushway, Nick and Polly Caldwell, Em and Ginny Callahan, Chuck and Billy Carlson, Al Carr, Dave Cist, Bob and Libby Crane, Ben and Jane Dann, Larry and Marion Degan, Bob and Jean Devine, Mario Di-Quilo, Clark and Connie DuBois, Fritz and Marge Dunmire, Joe Fantone and his wife, Dan and Tobie Fink, Guido and Nan Frassinelli, Sheldon and Joan Green, Jesse and Betsy Haines, Harry and Ann

Jones, Bill and Martha Katz, John Kayman, Norm and Gloria Kreisman, Herb and Evelyne Kurinsky, Phil and Mary Ann Lally, Henri and Pegge Langlois, Chuck and Phyllis Licht, John and Bobby Littlefield, Fred and Marilyn Lofgren, Bob and Nancy Lovezzola, Herb and Natalie Marcus, Stan and Roz Margolin, Steve and Georgette Miller, Sonny and Gloria Monosson, John and Laura Morrison, Ed and Helen Newdale, Perry and Jane Nies, Don and Nancy Noble, Harry Ottobrini and his wife, Jack and Imy Page, Jim and Ruth Pastoriza, Bob and Ruth Peterson, John Reid, Ralph and Barbara Reis, Norm and Dorothy Seltzer, Norm and Joy Shillman, Roger and Bernice Sisson, Verity and Marcia Smith, Dick and Carolyn Snow, Bill and Sonya Thorbecke, Ralph and Annette Vacca, Frank Viera and his lovely daughter Beth, Dave and Sorina Vigoda, Bill Virtue, Jack Walch, Paul and Ann Winsor, Bob and Marsha Wofsey, Hans and Ellen Wydler, Ted and Jary Yoos, and our banquet speaker, Professor E. Neal Hartley of the Humanities Department.

Vic and Marguerite Dawson had also planned to attend the reunion until Vic learned at the last moment that his doctoral thesis had been accepted. Thus, on the same Saturday as our reunion Vic picked up his Ph.D. at the University of Maryland. . . . Jack Walch's wife, Zelda, was another one who had hoped to come to the reunion, but decided she wasn't feeling quite up to it. She was just recovering from some rather serious burns a few months before when her clothing caught fire while she was cooking breakfast. However, I am happy to report that she has now fully recovered. Incidentally, Jack had a very nice promotion with Public Service Electric and Gas last spring. He was transferred from the Bergen Station to the main offices in Newark, N.J. I understand he is now engaged in corporate planning. . . . Many of you will recall learning at the reunion that Harry and Ann Jones were happily "infanticipating" their first. Hence, I am very happy to now report the birth of Craig Sterling (10 lbs. 1 oz.) on August 31. . . . Another blessed event I am most happy to report is that of David Scott (8 lbs. 2 ozs.) to Joe and Dolores Restivo on June 8. I personally know how overjoyed they are to finally have a son to complement their two lovely daughters, Debbie, 11, and Cindy, 8. Our fondest congratulations to both sets of parents.

Among the clippings I have received is a rather curious one from the last March issue of I.E.E.E. Transactions-Communications Systems. It's a very informative biographical sketch of Roy C. Amara, but unfortunately doesn't indicate the reason for printing it. However, it does bring us up to date on Roy's activities since leaving the Institute. In 1949 he received the A.M. degree in physics from Harvard and in 1958 a Ph.D. in electrical engineering from Stanford University. He joined Stanford Research Institute in 1952 and was shortly engaged in the work of the Control Systems Laboratory. In 1954 he transferred to the Digital Computer Laboratory and worked for a year in the detailed logical design of the

E.R.M.A. computer. He was promoted to senior research engineer in 1955 and spent the next six years in the General Systems Department, specializing in analysis involving the planning and design of information handling systems. Since 1961 he has directed the work of the Systems Engineering Department. He is principally engaged now in planning and developing research programs dealing with realtime man-machine systems. Roy had the honor in 1960 of serving as one of the U.S. delegates to the Moscow Congress of the International Federation of Automatic Control. . . .

There was a very nice squib about Carl Accardo in the Boston Sunday Globe last May 19. Carl, who followed his S.B. in physics with an M.S. in physics from New York University, is working with another scientist at Geophysics Corporation of America in solving that nasty aerospace problem of communications blackout during re-entry. . . . George E. Stewart has been elected managing director of Mobil Chemicals, Ltd., with headquarters in London. Since 1959, George has been manager of the Jacksonville, Ill., polyethylene products plant of Kordite Corporation, also a Mobile affiliate. Previously he was chief industrial engineer and production superintendent of the Kordite plant in Macedon, N.Y. He went to Kordite from Eastman Kodak Corporation in Rochester. George has been vice-president of the Chamber of Commerce and of the Rotary Club in Jacksonville. He and his wife have four daughters and two sons. . . . Jerome P. Keuper is president of Brevard Engineering College in Melbourne, Fla. (about 20 miles south of Cape Canaveral). Established in 1958 by Jerry and a group of scientists who worked with him for the RCA Service Company, Brevard is the first college in the United States to offer an M.S. degree in space technology. Most of the 700 students (about 165 of whom are graduate engineers working on their master's degree) and nearly all of the faculty members (who serve parttime) are employed at missile and space technological centers at Cape Canaveral and Patrick Air Force Base. Jerry, who got his S.B. in Course VIII, also has a master's in physics from Stanford. . . Gerald L. Thompson has been promoted to professor of applied mathematics and industrial administration in the Graduate School of Industrial Administration of Carnegie Institute of Technology, as of September 1, 1963. Gerry, who took his S.M. in math with our class, received his B.S. in electrical engineering from Iowa State and his Ph.D. in math from Michigan. He joined the Carnegie Tech faculty in 1959 after serving on the faculties at Princeton, Dartmouth, and Ohio Wesleyan. Gerry and his wife reside at 616 Ravencrest Road, Pittsburgh 15, Pa.

Warren J. King was elected vice-president of education and research of the Industrial Management Society. Warren is director of special services for Albert Ramond and Associates, Chicago management consultant firm. He formerly was midwestern editor of 'Factory Management and Maintenance' magazine, published by McGraw-Hill. Before going

to Chicago, he was on the magazine's New York editorial staff and was quite active in the M.I.T. Club of Northern New Jersey. He lives with his wife and family at 1069 Spruce Street, Winnetka, Ill. . . . Colonel John H. Savage, commanding officer of the Army-Tank-Automotive Center's (ATAC) Warren Arsenal, has been named to head the ATAC's research and engineering directorate. As directorate chief, Colonel Savage will head a working staff of more than 600 engineers, scientists and technicians in the \$100 million-a-year operation of the \$25 million laboratory's research and test facilities. He entered the Army in 1940 after taking a B.S. in engineering at the University of California; and received his S.M. in mechanical engineering at Tech with our class. Colonel Savage and his wife, Gertrude, live at 15239 Belmont, Allen Park, Mich. . . . Leonard C. Maier, Jr. has been named general manager of the General Electric Company's Semiconductor Products Department, Syracuse, N.Y. He will direct and be responsible for G. E.'s signal semi-conductor business. Prior to this promotion, he was manager of engineering for the Semiconductor Products Department. Len took his B.A. in physics from Williams in 1944 and the S.M. and Ph.D. in physics from the Institute in 1948 and 1949, respectively. . . . Captain Robert E. Stark, U.S.N., is co-author of a paper published in the August issue of the 'Naval Engineers Journal.' The paper was an updated version of the one which the authors presented at the S.A.E.-A.S.N.E. meeting in Washington, D. C., in April. Unfortunately, the clipping didn't state the title. Captain Stark is currently assigned to the staff of the Ship Characteristics Division of the Office of the Chief of Naval Operations. . . . It was announced on August 13 that Dan Fink has been appointed assistant director for defensive systems in the Office of Defense Research and Engineering in the Department of Defense. Dan was formerly vice-president of Allied Research Associates, Inc., for 11 years and prior to that was chief of aircraft dynamics for Bell Aircraft Corporation. He was also employed by the Cornell Aeronautical Laboratory. . . Lawrence I. Levy has been elected to the newly created position of vice-president for corporate development of the Raytheon Company. During the last two years he was headquartered in Paris, where he served as principal civilian representative of Defense Secretary Robert McNamara in Europe, North Africa and the Middle East, as well as defense advisor to Thomas Finletter, U.S. Ambassador to NATO. In this latter role he carried the rank of minister. He lives with his wife and three daughters in Newton Centre, Mass. . . . John H. Randall has been appointed manager of erection operations by Combustion Engineering, Inc., at Windsor, Conn. Joining Combustion in 1956 as manager of the prototype department, he worked for four years on nuclear submarine assignments and was transferred to the erection department in 1960.

Clifford C Ham, one of our brethren who, after receiving his B.C.P. degree,

took the call to the ministry, has been appointed to the faculty of the Graduate School of Public and International Affairs of the University of Pittsburgh, where he is teaching urban renewal and planning. He was formerly a lecturer at Wesley Theological Seminary in Washington, D. C. His new address is 4723 Wallingford Street, Pittsburgh 13, Pa. . . . John Reid was appointed president of the M.I.T. Club of Northern New Jersey by its board of governors last June following the sudden and untimely death of recently elected James L. Vaughan, '36. . . . Your scribe, along with other Alumni and friends of the Institute, attended the gala opening of the new M.I.T. Alumni Center of New York at the United Engineering Center on September 26. The only other '48ers I chanced upon were Norm Kreisman and his wife Gloria, and Ken Brock, our former class agent and now a member of the Alumni Fund staff at the Institute. I did run into John O. Atwood, '45, who said he couldn't find any other '45ers at all and felt that he was the only one there. (Clint Springerplease take note!) It was nice, though, to see John again and chat a bit. The last time I saw him was three years ago at '45's 15th Reunion. He is now product manager for solvents for General Aniline and Film Corporation with offices in downtown Manhattan. He and his family are living at 20 West End Avenue, Summit, N.J. He was formerly product line manager at their Charlotte (N.C.) plant. John T. Reid, Assistant Secretary, 80 Renshaw Avenue, East Orange, N.J.; Robert H. Mott, Secretary, Hebron Academy, Box 113, Hebron, Maine; Richard V. Baum, Assistant Secretary, 1718 E. Rancho Drive, Phoenix, Ariz.

'49

The second meeting of the 15th Reunion Committee was held at the Faculty Club last September 23, with the following in attendance: Russ Cox, Fletcher Eaton, Harry Lambe, Dick Lang, Joe Lynch, Stan Margolin, George McQueen, and Wally Row. Meetings will be held at one month intervals and more often when necessary. The first mailing should reach you before Thanksgiving. If you want to hear about the plans but word doesn't come, please let one of the undersigned know. The IBM machine which provides us with addresses has been known to err. A card from you will set things right. Archie Harris, Chuck Holzwarth, and Tom Toohy will receive the minutes of all meetings and spread the word in the important geographical areas of Los Angeles, Chicago, and New York, respectively.

Wally Row has closed the deal with The Belmont, which he describes as "the best on the Cape." We will have exclusive use of the hotel since we have guaranteed to meet their minimum requirement of 150 persons. Advance interest indicates that this will be no strain. Several classmates have indicated their intention of making a package deal out of the 15th Reunion and the New York World's Fair.



Ella P. Gardner, '55, a project co-ordinator for Chrysler Corporation, received her S.B. in Course XV. She also holds a M.B.A. from University of Michigan.

Names of those known to be coming will be published soon. Gerry Grott, who runs the Arkota Steel Company in Coolidge, Ariz., will be on the list, according to Russ Cox, who quotes Gerry as saying he "can't wait to get back." We hope to make it worth your while, Gerry. . . . The main business of the next meeting (late October) will be to discuss the program for the reunion as presented by Fletcher Eaton and Dick Lang. As you should know by now, we plan to have our own "Beaver Party Convention" with all the color and excitement of a presidential convention. The state with the biggest delegation will get to sit on the most chairs. There will be deals and steals and smoke-filled back rooms-but there I go revealing all our plans.-Fletcher Eaton, Assistant Secretary, 83 Herrick Road, Newton Centre 59, Mass.; Frank T. Hulswit, Secretary, A. D. Little, Ltd., 197, Knightsbridge, London S.W. 7, England.

'54

Although statistical summaries have a reputation for being boring, such a summary can be quite interesting to a reader if he is one of the statistics involved. With this in mind, I have been extracting information from the latest official class list; the list includes all members of the class, active and inactive, graduates and non-graduates, and shows the degrees which each member of the class received at Tech. (Only degrees from M.I.T. are included; many of us also have degrees from other schools.)

At the moment, the Class of 1954 has 1,443 members. Of these, 298 have no degree from Tech, 676 have a bachelor's degree, 466 have received graduate degrees after doing their undergraduate work somewhere else, and three, for some reason, have an unknown degree status. Of the 676 with a bachelor's degree, 527 either went on to graduate work at another school or tripped directly and gaily

into the cold, cruel world. Five members of the class picked up a second bachelor's degree before shaking loose; 97 added a master's or engineer's degree to their S.B., and 35 have acquired both bachelor's and doctor's degrees (with or without master's work in between). Twelve members of the class who did both undergraduate and graduate work at M.I.T. have been greedy enough to take more than one degree at some level. Half a dozen have gotten bachelor's, master's and engineer's degrees. Dick Mills has two bachelor's and one master's degree; Francisco del Valle has one bachelor's and two master's. Three of the boys have received bachelor's, master's, engineer's and doctor's degrees, and one, Zdenek Stekly, has a bachelor's, two master's and a doctor's.

This is being written on October 11, and the temperature in St. Louis rose to 94 degrees this afternoon. But Merry Christmas and Happy New Year!—Edwin G. Eigel, Jr., Secretary, 4945A Sutherland Avenue, St. Louis 9, Mo.

'55

John Farmer, Gene Davis, Glenn Jackson, and Jim Eacker attended the Alumni Fund Conference held at M.I.T. on September 6 and 7. John has since been appointed special gifts chairman for the class in the Boston area, and Gene is the 1963 regional vice-chairman of the Fund for Stamford, Conn. We are sure all of you are supporting the fund in a regular fashion, and by and large, we beam with pride when the score cards are sent out indicating the relative responses of the various classes. . . . Bob Morgan has moved out to Chicago from New York to become firm-wide personnel director for Booz, Allen and Hamilton. So if any of you guys are looking for a job, don't forget our man in Chicago. . . . An award for the outstanding paper presented during the 1962 Joint Automatic Control Conference was won by Dr. Charles W. Merriam, 3d, of the General Electric Research Laboratory in Schenectady. The conference is the principal American technical meeting held each year in the area of automatic control. Charles is the author of the book, "Optimization Theory and the Design of Feedback Control Systems," to be published by McGraw-Hill. . . . IBM announced the promotion of Edward W. Gore, Jr., of Endwell, N.Y., to senior planner at the IBM New York branch office.

Judson and Joyce Ball apologize for not supplying a pretty pink card to tell of Jenifer Ellen, born last June. Jay goes on to tell of his architectural career as follows: "After going around to several of the national parks it put up buildings (including a much photographed visitor center at Wright Brothers National Memorial), we traded in an unused apartment for a house and settled down in an office to practice more quietly—still with the National Park Service. After a Superior Performance Award for some architecturing in Lake Superior (Isle Royale), I was given the Statue of Liberty, a

budget, and some paper. We will start construction of the American Museum of Immigration around the base of the statue next spring." Sounds fabulous, Jay; we all wish you best of luck.

The election of Daniel G. W. Del Rio as vice-president and treasurer of Maxwell, Franklin and Company, Inc., members of the New York and American Stock Exchanges, was announced. He is prominent as a consultant to Latin American industrial and banking firms seeking financing in the U.S. Dan and wife have one child and are residing in New York City. . . . Eugene F. Hendry has been appointed senior electronic research engineer for Aeronutronic/Division of Philco Corporation, a subsidiary of Ford Motor Company. Eugene is married to the former Kitty J. Robbins, has three little ones, and is living in Arlington, Calif. . . . More good news from the West Coast. This time about Dr. Peter R. Schultz who has been appointed staff engineer in Aerospace Corporation's Guidance Systems Department, Systems Research and Planning Division. Pete, wife, and their three children live in Palos Verdes Estates, Calif. . . . Dr. Sheldon S. White has joined Dynatech Corporation as a principal engineer in the Aerospace Projects Group. He has published extensively in the fields of heat flow and treatment, materials improvement and testing, welding and joining, combustion, and impact phenomena. Sheldon resides with his family in Winthrop, Mass.

Two Bowdoin College graduates have returned to their alma mater to help build the college's new Senior Center, construction of which is now well under way. One of the two is our own Professor Charles C. Ladd, Jr., of Concord. Charles, who is in charge of M.I.T.'s Soil Engineering Laboratory, and is an internationally recognized consultant on earth and clay problems involving construction, was called in by Bowdoin to oversee the soil testing preliminary to building of the foundation for the 16-story Senior Center residential tower. Bowdoin's Senior Center Program, a unique plan of integrated study and living for members of the senior class will begin in September, 1964. . . . Dr. Philip A. Cruickshank, Group Leader with the Research Institute for Medicine and Chemistry at Cambridge, Mass., has joined the recently formed interdisciplinary research group at FMC Corporation's Princeton Research and Development Center. The group consists of teams drawn from different scientific disciplines. Its scientists are encouraged to suggest areas of chemically oriented basic research and to conduct studies regardless of their practical applications. . . . Appointment of William A. Cawley as manager of engineering for sewage and waste treatment, a new position, has been announced by the vicepresident and general manager of Crane Company's Engineered Products Group. Bill still edits and writes for 'Industrial Wastes' and 'Water and Sewage Works'

Thomas Goodman has developed a method of article writing worthy of note: "Attach the seat of the pants to the seat of a chair for one solid week end." It

magazines.

must work well, because Mr. Goodman has written 23 papers, including several for the Purdue-Machine Design Mechanisms Conferences. Tom's work has included teaching, research, and consulting. Far from an all-work, etc., type, he finds time for hiking, swimming, tennis, foreign travel, and the study of foreign languages. Sounds like he's developed a method for squeezing 48 hours into a day. . . . Dick Bergman, wife Judy, and kids Susan, 2 and Deborah, 4, are living in Princeton, N.J. Dick is with Princeton Chemical Research, Inc., an independent company offering contract research to industry in the general area of chemical catalysis. He served as vice-chairman in that area for the Second Century Fund Drive and is running for chairman-elect of the New Jersey American Institute of Chemical Engineers. . . . Our 10th Reunion is only two years off and some suggestions for it have already been received by Robert E. Gaynor, Richmond Heights, Ohio. Bob is materials manager for Keithley Instruments, Inc., in Cleveland. His two children are aged 2 and 3. Bob suggests making co-ed rooms available on campus, a big dance, a lobster picnic on the shore, a beforehand survey (anonymous) of positions, etc. As you all know Jim Eacker (29 Eliot Street, Sherborn, Mass.) would appreciate receiving any of your ideas for our gala get-together. See you again next month. Have a Merry Chrismas and a Happy New Year. -Co-secretaries: Mrs. J. H. Venarde (Dell Lanier) 2401 Brae Road, Ardentown, Wilmington 3, Del.; L. Dennis Shapiro, Aerospace Research, Inc., 130 Lincoln Street, Brighton 35, Mass.

'56

Bob Alter has returned to his father's air conditioning equipment firm in Chicago after a world tour celebrating his release from the Army for a second time. . . . Richard Carlson writes that he received his M.B.A. from Harvard in 1961 and has been with Eastman Kodak in Rochester since then. He and Priscilla have a daughter, Katherine, born in October, 1961, and a son, Steven, born in August. . . . Curt Flory has been appointed product manager for footwear materials by the Coated Fabrics Division of Interchemical Corporation. . . . In June Ken Jones received his doctorate in education from Harvard. Ken also received his master's from Harvard in 1957, but taught chemistry at Thayer Academy in Braintree, Mass., for four years before returning to Cambridge. Ken is now on an IBM research fellowship at Harvard. . . . Ed Kirkpatrick has become the senior auditor for Sanders Associates in Nashua, N.H. Ed was formerly with New England Telephone and Telegraph in Boston. . . . For the July issue of the 'Journal of Applied Physics,' Dr. Emmanuel Papadakis wrote an article on "Attenuation of Pure Elastic Modes in NaCl Single Crystals." It was based on work done by Emmanuel for his doctoral thesis in the Laboratory for Insulation Research at Tech. . . . Dr. Arthur Peskoff is now at Space Technology Labs in Redondo Beach, Calif. . . . Lester Senechalle was wed to Marjorie Katz in Chicago last May. Lester received his doctorate from Illinois Tech and taught math at the University of Tennessee for two years. This fall he is an assistant professor at the University of Arizona.

Dr. Seth Silverstein obtained his doctorate in theoretical physics from the University of Illinois and was a postdoctoral physicist at the University of Calif. In July, Seth, his wife and two children moved to Schenectady, N.Y., where he has joined the metallurgy and ceramics research department of General Electric. ... Dr. Donald Sims became an assistant professor in the Department of Electrical Engineering at Purdue after leaving Tech. Later he received his doctorate from Purdue. This year he joined the Technical Research Group at Syosset, N.Y., as senior scientist in the quantum electronics department.-Bruce B. Bredehoft, Secretary, 16 Millbrook Road, Westwood, Mass.

'57

In the never ending quest for news, I called on Ed Roberts early this fall. Ed, as many of you know, stayed at Tech after receiving his doctorate from the School of Industrial Management; presently he holds the rank of assistant professor. Between glances out the window of Ed's office (a panoramic view of the Charles River and Boston's corruption tinted State House dome is offered) and glances at the bevy of unusually attractive secretaries walking around, I dug up some information that I think will interest you on one of Ed's current activities, the study of R & D management. This work is part of the Organization Research Program which has been undertaken by the School of Industrial Management for NASA. In addition to Ed, who is associate director of the program, 11 other faculty members and 25 graduate research assistants are engaged in this project. The scope of the study is very broad at present. Answers are sought to such questions as: How does a successful researcher work? How does he communicate within his organization? At the macroscopic level, efforts are being directed at determining how useful R & D activities are to the nation's economy. Principal attention, however, is currently centered on some of the intermediate levels. Ed is working on one study, which is examining the characteristics of a successful research project, a successful research laboratory, and a successful research group within a laboratory. Visits to and analyses of data from three dozen or so technical establishments that figure prominently in Defense Department and NASA operations are now proceeding. It is felt, that this research is timely because of the growing importance of R & D work in the U.S. economy.

As those of you know whose last names begin with letters A through K, I sent out in September a request for news for this column. A number of letters were returned marked "address unknown." I would appreciate your keeping the Alumni Office up-to-date on your changes of addresses. . . First, Bill Fleischer wrote: "Please excuse the handwriting as I'm writing this note at 27,000 feet en route to Memphis via St. Louis from New York City and it's a little choppy. We (wife Barbie and the three children) are right in the middle of moving to St. Louis where I have been transferred by Ingersoll-Rand Company to take over the territory of southern Illinois. eastern Missouri, Arkansas, parts of Tennessee, Mississippi, and Kentucky as sales manager for the Pneumatic and Electric Tool (and Hoist) Divisiona good break for me! For the past three years I've been working as the staff development engineer at the I.R. home office in New York City and welcomed the change back to sales. I had been a sales engineer the previous three years, all with I.R. Hal and Ethel Miller were down to see us from Rome, N.Y., with their two boys this summer. Instead of waterskiing as planned, we wound up tearing down my 35 H.P. Evinrude and overhauling same-just like old Burton House days with our jalopies. . . . Ben Inserra is still single. How about an appeal to all of '57 to get him hooked? He's been living it up at Westhampton all summer and needs to settle down(?)". . . . From Dominick Fortunato, I received the following note: "I am working for the Allis-Chalmers Manufacturing Company as I have been for six years. I am presently in the Nuclear Power Department doing reactor core design work." . . . Nelson Disco informed me that he was married to Carolyn-Ann Brown on October 12. Carolyn-Ann graduated from Barnard College in 1962. They are living in Great Neck, Long Island. Nelson is a mechanical engineer with the Sperry Gyroscope Company. . . . After trying a Paris restaurant that I recommended, Bob Rosin dropped me a postcard with the following message: "We ate at Chez Maitre Paul last night. The food, as predicted, was excellent! And so is the entire city. Bob Green got married (to Joann Soloff) and so there are four of us here. We hope to see Dick Blieden and wife Nancy in Geneva in four weeks. Then to Holland, Denmark, England, and (Arrgh!) Ann Arbor." For those interested, Chez Maitre Paul is at 12, Rue Monsieur Le Prince (Left Bank near Place Odéon). The tab is about \$2 per person. Telephone, Odeon 74-59.

The second annual cocktail party for classmates in the Boston area will be held in December or January. All who would like to come should contact either Mal Jones at M.I.T. (extension 5870) or myself (227-1738) for details. Last year almost 60 persons, including wives and dates, turned out. An enjoyable time was had by all.—Frederick L. Morefield, Secretary, 1-A Acorn Street, Boston 8, Mass.

'58

In planning the Class of '58's 5th Reunion, it was decided to conduct a survey of the class and present the results at reunion. I hoped that the poll might serve as a five-year milestone. If such a poll is conducted every five years, we will learn the answers to such questions as: When do M.I.T. men hit their peak earning power? How many of us change fields and jobs and when? What are our families like, and are our non-professional lives different from those of other college graduates? The questionnaire was returned by 365 of us, representing nearly half of the class. Even after excluding a few replies of dubious authenticity, such as Rudy Currimjee's in which he confessed to being the only Communist spy on the island of Mauritius, we still had some significant results. . . . Of the 365 who replied, 92 live in Massachusetts, 44 in New York, 28 in New Jersey, 21 in Pennsylvania, 42 in California, and others in 28 other states and 13 foreign countries. The number in urban areas is 128, in suburban areas 172, and in rural areas 36. . . . The respondees included 169 who live in apartments and 88 who own their own houses; 64 of the latter paid less than \$25,000 for a home, and 75 per cent of the houses were under 40 per cent paid for. . . . There were 330 who said they owned cars, of which 134 were of the last three years' vintage and 71 were pre-1958 models. These cars included 72 Chevrolets, 53 Fords, and 109 abroad. . . . Ninety-nine remade spondents were single, eight were engaged, one divorced, and 246 were married. Of the latter, 40 had been married one year or less; 44, two years; 46, three years; 46, four years; 36, five years; and 34, more than five years. Also, of 246 married couples, 94 had no children, 75 have one child, 55 have two, 14 have three, and 8 have four. One hundred seventeen of the children are boys and 116 are girls; 26 were lost in compilation or parents weren't sure. One '58er announced at the reunion that he appeared to be the first with five children. I think he won a bottle of Scotch. . . . One hundred twenty-four men met their wives while at M.I.T. . . . 53 met them before, and 69 after attending M.I.T.; 210 of the wives attended college, 150 were graduated, and 30 hold graduate degrees. One hundred seventy-seven of the lovely ladies worked after marriage, 54 as secretaries, 47 as teachers, 16 as nurses, 21 in other technical jobs, 39 in other non-technical jobs. Sixty-four were working at poll time.

Tech's forté is not in the fort, it seems, for 197 respondents had not been in the military service. Of 131 who were, 89 were in the Army. Also, of the 131 who served, three men never even made the equivalent of P.F.C., 16 got that far, and 15 became sergeants. In the officer category, 10 remained the equivalent of second lieutenants, 75 became the equivalent of first lieutenant, and one was a major. . . . Two hundred ninety-three said they are also studying part time. Forty-six are still studying full time. The most popular industries are electronics, 65 respondents; aerospace or missile, 44; chemical, 23; information and computers, 13. One hundred sixty indicated there was some R & D in their work; 48 indicated some production; 23, some sales; and 38, some administrative responsibility. . . . It seems that large companies certainly do grab our boys. Ninety-two work for companies with 10,000 or more employees; 20 for companies employing between 5,000 and 9,999, 64 for companies in the 1,000-4,999 range, 40 for companies in the 100-999 range, and 41 for companies with fewer than 100 employees. Five are self employed, and 24 do some outside consulting.

The median class salary appears to be about \$9,500 per year. A breakdown of the responses showed that 23 made under \$6,000 per year, 17 made between \$6 and \$7,000; 27 made between \$7-8,-000; 48, between \$8-9,000; 85, \$9-10,000; 44, \$10-11,000; 32, \$11-13,000; 14, \$13-15,000; and seven made over \$15,000. . . . Eighty-eight had some form of outside income. . . . Two hundred twenty-seven have their own office telephone; 141 have their own office; and 59 have their own secretaries. One hundred fifty-six men are holding the first job they had after graduation, excluding military. Ninety-seven are holding their second job; 44 their third; 14 their fourth; and one is holding his fifth and reported high satisfaction. Regarding satisfaction, 174 reported high job satisfaction, 119 reported average, and 18 reported low satisfaction. Two hundred twenty-five were working in the field in which they received their degrees. . . . This hodgepodge of data covers about one half the subject matter reported in the poll results. The other half will appear in another issue of The Technology Review in a month or two.-Cornelius Peterson, Secretary, 4 Rambling Brook Road, Upper Saddle River, N.J.; Stephen Friedman, Questionaire Chairman, 122 Waverly Place, New York, N.Y.

'59

Our President **Dick Sampson** has been appointed administrative officer of the Department of Civil Engineering at Tech. In addition to his administrative responsibilities, Dick will participate in the teaching and research program of the department in the field of engineering management. Congratulations!

Your secretary is getting lonely again! After an encouraging summer, news has become all but non-existent. . . . Henry Freynik is working for the National Aeronautics and Space Administration Research Center at Hampton, Va., and published an article in the June issue of 'Sound.' . . . Ken Kellermann has received his doctorate and is working for Radiophysics Labs in Sydney, Australia. ... Many '59ers have been moving lately, but I don't have any details. Dave Packer, is now in Watertown, Mass.; John Brackett in Bethesda, Md.; Ernie Potter has settled in Salinas, Calif.; Don Spiller in Richardson, Texas; Jim Schattinger is in Cleveland, Ohio; and Bill Jobin is living in Foxboro, Mass. . . . Late word from Boston is that the 5th Reunion Committee under the leadership of Dave Packer is proceeding full steam ahead with plans for the weekend of June 13-14. More information will follow in letters to the class and in this column.—Robert A. Muh, Secretary, M-424 Arlington Towers, Arlington 9, Va.

'60

My apologies for not having notes in the November issue. A chain of events, such as a son born August 29 and a new home (note the new address below) and a new job, all made things too hectic. The new job is as general manager of two small companies in central Massachusetts -both engaged in the retail and industrial stationery trade. Now that things are somewhat settled, here is the news: Dick Smith wrote a note saying that he was graduated from Harvard Law (Ll.B.) last July and then married the former Kay Henckell of Birmingham. In August, Dick reported to Fort Lee, Va., to begin two months as a lieutenant in the Quartermaster Corps. . . . Norm Bednarcyk wrote that he was married in April to Elizabeth Kloehlen of Roselle, N.J. (Norm says Bermuda is a great place for a honeymoon.) He is now working for Lever Brothers at their Research Center in Edgewater, New Jersey. . . . Allan Pacela wrote a nice letter; it sounds as if he is doing some interesting things. He got an M.S. in math at the University of Miami in 1962. In September of 1962 he founded Physical Instuments, Inc., of Coral Gables, Fla., to do electronic R & D on some commercial products he designed. Allan was married in November 1962. He is now working for Reflectone Electronics, Inc., of Fort Lauderdale, Fla. . . . News from Carlo Piazza—he has been working at Tech this year on a doctorate in chemical engineering and will be working in Spartansburg, S.C. (Deerings Milliken Research Corporation) after graduation. . . . Pete Silverberg claims to have settled down to a life of domestic tranquility. Pete and his wife are in Allentown, Pa., where he is working for Air Products and Chemicals. Pete reports on other members of the class. Paul Farris is at Pratt and Whitney in Hartford, Conn.; Phil Allen at DuPont in Bridgeport, Conn.; Ephriam Kahat is in Israel instructing future chemical engineers. Earle Pike was "last seen guarding the Panama Canal, as a lieutenant." Larry Israel is at Air Products programming computers: Morris Salame is with Plax Corporation; Burgess Rhodes is a math instructor at Lehigh University and is studying for his Ph.D. Pete thinks Steve Goodman is with U.S. Steel in Pittsburgh; and finally, James Cobb is researching on fuel cells at Purdue. Many thanks for the letter, Pete; at least Course X is well represented in this column. . . . Duane Christensen also wrote a card saying that in June he was graduated from the California Baptist Theological Seminary and is now at Harvard Divinity School working for a master of theology degree.

News releases from around the country report: **Ken Nordtvedt** is studying theoretical physics at Harvard as a junior fellow.... **Fred Kayne** was appointed this year as project director of a 600-acre

planned rural community in a part of California that I have never heard of. If anyone wants a bargain in the California desert just call Fred. . . . Ron Atwater has been making interesting news lately with his work in the Peace Corps. Ron's assignment has been in Columbia; from what I read he has had some amazing and wonderful experiences. Evidently Ron's Course II training has been put to good use. . . . Nelson Conover, now an Army captain, participated in NATO exercises in Europe in early September; Nelson is stationed in Germany. . . Mark Pratt and his wife are the proud parents of a boy, born in Boston, August 16. Mark is studying at Harvard. . . Robert Storer married the former Judith Clark last July, but I have no word on where Bob is now. . . . Michael Nesson cruised the Pacific during the summer as part of his doctoral studies at Caltech. The cruise was part of a research course in biological oceanography and involved a 10,000-mile trip through the South Seas collecting and studying specimens of marine life. Sounds like quite a summer. . . . Jan Mares was engaged to be married in August to Lois Haase. Jan was graduated from Harvard Law in June. . . . John Glass was engaged to be married August 24 to the former Poynter Stevenson. John spent the last two years in Nigeria as an M.I.T. Fellow in Africa. . . . Lee Holmes is serving as a Marine Corps captain at the Naval Missile Center at Point Mugu, Calif. That's all. Keep the news rolling in.-John B. Stevenson, Secretary, Partridgeville Road, Athol, Mass.

'61

Let's get back to those postcards which I started to write up in last month's column. Many of you were kind enough to write and it is high time the news got out. (I've thrown away all the unsigned cards which consisted mainly of comments on the personalities of the class officersthere are still some wits in the class. Well, it's better than no answer at all!) . . . Ray Friesecke writes that he is working in the Special Projects Lab at Dewey and Almy Chemical here in Cambridge, developing new products. . . . G. O. Martin is at the University of North Dakota working on his doctorate, field unspecified. . . . Fred Salvucci finished up his master's in civil engineering here in 1962 and now is working for the Boston Redevelopment Authority as a transportation planner. . . . Max Keck is at Purdue, going for a doctorate in physics. . . . Ralph Harris was in the process of completing his master of architecture degree at Yale. He is now the father of a son, Mark E., aged 15 months. . . . A card from Austin Odell in Thousand Oaks, Calif., noted the arrival last spring of a son. He goes on to say: "We have been on the West Coast two years, but our hearts and memories frequently turn to the East Coast. The latchstring is always out to M.I.T. peo-

Two June weddings to report, the first that of **Charles Rivers** to the former Joyce MacKeen in Portland, Maine. The

Rivers honeymooned in Maine and Canada, now live in Wilmington, Del. . James Lampert married Kathleen Walsh (Wellesley, '63) here in Boston; he will be graduated from Harvard Law next year. . . The engagement of Lloyd Kannenberg to Susan Bonnie was announced last May, an August wedding being scheduled at that time. Both Lloyd and Susan were in Course VIII at M.I.T. Neither has been idle since that time apparently, as both have obtained S. M. degrees in physics, he from the University of Florida, she at University of Pennsylvania. Is she the first of our coeds to find marital bliss with one of our own number? . . . Leonard Silver was among 12 honored with Revson Fellowships at Brandeis. This has enabled him to go on for his doctorate in mathematics there, since the grant covers three full years of study. Congratulations, somewhat tardily, to Leonard on this honor. . . . Following graduation from Caltech with an S.M. degree in geology, Michael Field joined the Peace Corps. He is scheduled for a two-year assignment in Ghana, working in his field. . . . Ken Blanchard gained his M.A. in chemistry from Princeton last summer. . . . My apologies for not mentioning it last month: our class was represented by a total of two at the Alumni Day festivities last June. Donald Marquis and Stephen Plafker made up the crowd.

Congratulations to Dwight Kennard who, upon graduation from the navigator training course at Connaly AFB, Texas, was named the distinguished graduate of his class. He is on duty in Japan at present. . . . Charles Fogg was in Africa when his card was returned; he planned at that time to return to M.I.T. in the fall but is not here as far as I can determine. . . . Bob Dulsky and Ron Yoo share an apartment in Sunnyvale, Calif. Both are with Lockheed Missile and Space Company, Ron in the field of orbit mechanics and tracking problems, Bob as a data systems engineer in the satellite test center. . . . C. Frank Lane says he has "left the defense of the country up to the professionals" and is now in pursuit of an M.B.A. at Stanford. He spent two years in the Navy, split between the Production Department of the Puget Sound Naval Shipyard and a hitch as damage control assistant aboard the 'U.S.S. Watts,' home port Tacoma, Wash. . . . Also at Stanford for graduate work is Captain Alan Edwards (after two years at the Air Force Academy), as well as Hardy Lynch, starting on his Ph.D. thesis at the High Energy Physics Lab. . . Martin Reinhart says tersely: "Employed by Perkins and Will, Architects." And Al Silver, after completing his S.M. in math at Ohio State last March, is employed by NASA in the Theoretical Division of the Goddard Space Flight Center in Green Belt, Md. I will close by passing on in its entirety a card returned to me last May by Fred Schmidt: "I have remained at or with the Institute since 1961 and have almost completed work for an M.S. in chemical engineering. I am holding a teaching assistantship with Professor Sherwood and have been on the staff at Instrumentation Lab. In a matter

of months I will be fulfilling my ROTC commitment. I notice that I live in the adjoining suite to yours (in Grad House). I hope my radio and phono haven't disturbed you." Good old Grad House; just one big happy family, that's all!—Joseph Harrington, 3d, Secretary, 1610 Westgate, Cambridge 39, Mass.

'63

Since last month's report, I have received information about 174 of our classmates. Here is a breakdown of that information which helps give a more complete picture of what is becoming of the class. The graduate schools lead the pack with 93. M.I.T. has claimed 45 more, Caltech has 2, Stanford, 6, and Berkeley, 3. The ivy circuit breaks 12 up as follows: Harvard, 3; Yale, 3; Princeton, 5; and Brown, 1. Three people were going to grad school, but evidently didn't know where. Twenty-one others were spread across the country, and one made it to Europe. . . . The Armed Forces did a little better this time, with nine spread among the Army and Navy. Two others have returned to their native countries to serve with their respective armies. The Peace Corps has one more, bringing the total to three. Two, corpsmen Richard Hull and Neal Grossman, are in Nigeria; the other, Jim Holcroft, is in the Philippines. One classmate has entered the ministry. The professional schools have 10 more: 3 in medicine, 3 in law, and 4 in business. There are 51 more of us contributing to the nation's economy as money earners. These 51 are spread throughout business with no discernible pattern. Perhaps the most fortunate member of our class is Jeffrey Levinger who is "just traveling." Six others are undecided as to what to do.

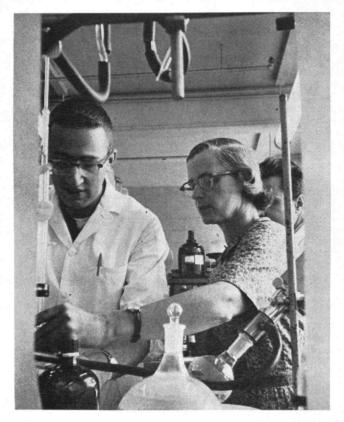
News about individuals: Bob Felix has finished an orientation course at Fort Belvoir and is now serving in the Corps of Engineers as a second lieutenant. . . . Lieutenant John McMorris, U.S.N., was recently awarded the Brand Award of the American Society of Naval Engineers for standing first in his class in the Navy post-graduate course. . . . Jim Evans is doing his fifth year in VI-B and is simultaneously serving as tutor to the D.U. house. . . . Henry Nau has just gone on active duty in the Army Reserve as a second lieutenant. Until then he was doing some research for Professor Padelford. . . . A while back, Tony Weikel was coming to intramural football games, medical notes in hand, studying between plays. He claims he was the only person who left the Harvard Med School dorms during the daytime; evidently everyone else was panicked. . . . Jim Nick is working on thin films for Boeing in Seattle and taking some courses at the University of Washington. . . . Next issue I will have some news on our first Alumni Council meeting. In the meantime, if anything at all has happened to you (and something must have by now), drop me a line.-L. Robert Johnson, Secretary, Harvard Business School, F-41 McCulloch Hall, Boston 63, Mass.

A Lady's Life At M.I.T.

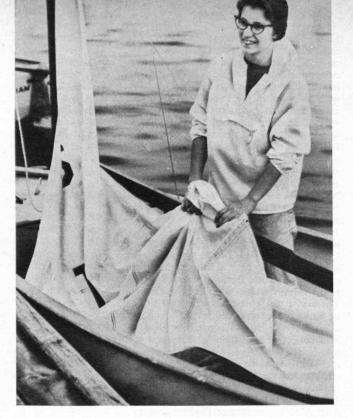
At work or play, she'll meet others of her sex



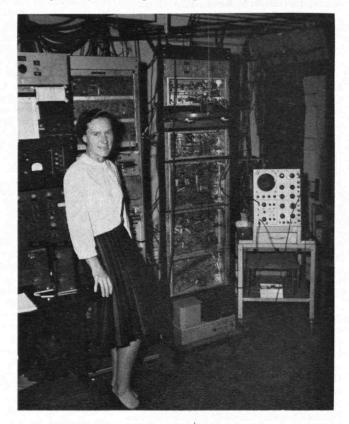
AT HOME with many other girls in McCormick Hall, and using its large living room, are (from left) Donna G. Hayes, '66, of Toledo; Patricia F. Smrz, '66, of Berwyn, Ill.; Lucy J. Garnett, '66, of East Meadow, N.Y.; and (seated) B. J. Vander Molen, '66, of Tucson.



EMILY L. WICK, '51, who studied at Mt. Holyoke before coming to M.I.T., is associate professor of food chemistry. In the laboratory where she teaches and does her research, the basic ingredients responsible for the flavor of food are being isolated and identified.



MARGARET "SCOTTY" MACVICAR, '65, is a sailing enthusiast, a physics major, and president of the Association of Women Students. She has worked summers in the Michigan State University spectroscopy laboratory and for AC Spark Plug on the Apollo project.



PAULINE M. AUSTIN, '42, heads the Weather Radar Research Group. She has shown that radar can determine rainfall as accurately as a network of rain gauges, and has located hailstorms by radar. She and Professor James M. Austin, '41, have teen-age daughters.



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